

# *The use of video technology for providing feedback to students: can it enhance the feedback experience for staff and students?*

Article

Accepted Version

Crook, A., Mauchline, A. ORCID: <https://orcid.org/0000-0003-1168-8552>, Maw, S., Lawson, C., Drinkwater, R., Lundqvist, K., Orsmond, P., Gomez, S. and Park, J. ORCID: <https://orcid.org/0000-0002-3430-9052> (2012) The use of video technology for providing feedback to students: can it enhance the feedback experience for staff and students? *Computers & Education*, 58 (1). pp. 386-396. ISSN 0360-1315 doi: <https://doi.org/10.1016/j.compedu.2011.08.025> Available at <https://centaur.reading.ac.uk/23292/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

Published version at: <http://dx.doi.org/10.1016/j.compedu.2011.08.025>

To link to this article DOI: <http://dx.doi.org/10.1016/j.compedu.2011.08.025>

Publisher: Elsevier

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in

the [End User Agreement](#).

[www.reading.ac.uk/centaur](http://www.reading.ac.uk/centaur)

## **CentAUR**

Central Archive at the University of Reading

Reading's research outputs online

# Accepted Manuscript

Title: The use of video technology for providing feedback to students: Can it enhance the feedback experience for staff and students?

Authors: Anne Crook, Alice Mauchline, Stephen Maw, Clare Lawson, Robyn Drinkwater, Karsten Lundqvist, Paul Orsmond, Stephen Gomez, Julian Park



PII: S0360-1315(11)00203-X

DOI: [10.1016/j.compedu.2011.08.025](https://doi.org/10.1016/j.compedu.2011.08.025)

Reference: CAE 1967

To appear in: *Computers & Education*

Received Date: 25 May 2011

Revised Date: 13 August 2011

Accepted Date: 20 August 2011

Please cite this article as: Crook, A., Mauchline, A., Maw, S., Lawson, C., Drinkwater, R., Lundqvist, K., Orsmond, P., Gomez, S., Park, J. The use of video technology for providing feedback to students: Can it enhance the feedback experience for staff and students?, *Computers & Education* (2011), doi: [10.1016/j.compedu.2011.08.025](https://doi.org/10.1016/j.compedu.2011.08.025)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**The use of video technology for providing feedback to students: Can it enhance the feedback experience for staff and students?**

Anne Crook<sup>1\*</sup>, Alice Mauchline<sup>2</sup>, Stephen Maw<sup>3</sup>, Clare Lawson<sup>2</sup>, Robyn Drinkwater<sup>2</sup>, Karsten Lundqvist<sup>4</sup>, Paul Orsmond<sup>5</sup>, Stephen Gomez<sup>6</sup> and Julian Park<sup>2</sup>

<sup>1</sup> Centre for the Development of Teaching and Learning, University of Reading, Whiteknights, Reading, RG6 6AA, UK.

<sup>2</sup> Department of Agriculture, University of Reading, Earley Gate, PO Box 237, Reading, RG6 6AR, UK.

<sup>3</sup> UK Centre for Bioscience, The Higher Education Academy, Room 9.15, Worsley Building, University of Leeds, Leeds, LS2 9JT, UK.

<sup>4</sup> School of Systems Engineering, University of Reading, Whiteknights, Reading, RG6 6AY, UK.

<sup>5</sup> Faculty of Sciences, Staffordshire University, College Road, Stoke-on-Trent, Staffordshire, ST4 2DE, UK.

<sup>6</sup> Work Based & Placement Learning, Endsleigh Place, University of Plymouth, Drake Circus, Plymouth Devon, PL4 8AA, UK.

\* Corresponding author: Anne Crook, Centre for the Development of Teaching and Learning, University of Reading, Whiteknights, Reading, RG6 6AA, UK. Tel: +44 (0)118 3787948; Email: [a.c.crook@reading.ac.uk](mailto:a.c.crook@reading.ac.uk)

1 **1. Introduction**

2 Assessment and the provision of feedback are considered essential to student learning  
3 (Biggs, 2003; Gibbs & Simpson, 2004; Juwah, Macfarlane-Dick, Matthew, Nicol & Smith,  
4 2004; Sadler, 1983). Further, *good quality* and *timely* feedback are key features for  
5 supporting effective student learning processes and in developing the student/tutor  
6 relationship (Irons, 2008). 'Feed-forward' forms an integral component of good quality  
7 feedback by signposting ways in which students may enhance their future performance  
8 (Duncan, 2007) and such developmental feedback is particularly valued by students (Lizzio &  
9 Wilson, 2008). However, across the sector it has been recognised for some time that there  
10 are problems with the delivery of good quality, timely feedback; moreover, engaging  
11 students with assessment-related feedback poses additional challenges for staff (Bevan,  
12 Badge, Cann, Willmott, & Scott, 2008). In recent years these problems have also been  
13 consistently highlighted in successive National Student Survey findings.

14 *1.1 Staff experience in delivering feedback*

15 For staff, the provision of feedback can be a very repetitive process and often very time  
16 consuming especially where class sizes are large. There is also evidence to suggest that  
17 feedback is not always as effective as staff imagine (Carless, 2006; Orsmond & Merry, 2011)  
18 and Glover and Brown (2006) suggest that improvements can be made by shifting towards  
19 formative feedback, which can be defined as "the process used by teachers to recognise,  
20 and respond to student learning in order to enhance that learning, during learning" (Cowie  
& Bell, 1999). There are also concerns at the lack of student engagement with the feedback  
22 process even when timely and good quality feedback is provided (Duncan, 2007). Staff  
23 sometimes find it difficult to provide appropriate feedback to large numbers of students and  
24 this problem may become worse if class sizes continue to grow. Further, with the shift to  
25 reliance on student fees for teaching and learning budgets in the UK, students may have  
26 their expectations of academic staff set higher than ever; for example, many students are  
27 already requesting the ability to submit work and receive feedback on-line (Hepplestone &  
28 Mather, 2007).

29 *1.2 Students' experience of receiving feedback*

30 For some students feedback can be provided in a manner which they feel is too late to be  
31 useful, too vague, unclear and inconsistent (Glover & Brown, 2006; Weaver, 2006). Such  
32 sentiments have been highlighted by the National Student Survey (NSS) data which have  
33 shown that the overall area of 'assessment and feedback' in higher education has been  
34 consistently rated the lowest in terms of student satisfaction since the survey started in  
35 2005 (Higher Education Funding Council for England [HEFCE]<sup>a</sup>, 2010; SurrIDGE, 2008).  
36 Analysis of the longitudinal trends in these data have shown gradual improvements in  
37 students' perceptions of this area of their education (Kane & Williams, 2008); possibly  
38 because HE institutions are acutely aware of these issues and have invested in a range of  
39 measures to try to improve feedback provision. However, the 2010 survey showed this area  
40 was still seen as problematic for students, particularly the issues of receiving prompt  
41 feedback and receiving feedback that helped clarify points in their work that they did not  
42 understand (HEFCE<sup>b</sup>, 2010).

### 43 *1.3 Audio and video feedback: Enhancing the feedback experience?*

44 Feedback has been known to be a challenge for both staff and students for some time, even  
45 before the introduction of the NSS. It is acknowledged that written feedback has its  
46 limitations (Price, 2007; Walker, 2009) including problems of illegible handwriting, and the  
47 potential for misunderstanding of the written comments. Although more personal, oral one-  
48 to-one feedback may not necessarily be perceived by students as feedback; indeed Smith  
49 (2007) has highlighted the concern that many students only see feedback as written  
50 comments on their assignments. With all the known challenges of providing feedback to  
51 students and helping them to engage more actively with their feedback a number of recent  
52 studies have looked at the pedagogic use of digital technologies for enhancing feedback  
53 provision. An appropriate technological application has the potential to encourage staff to  
54 reflect on their current feedback practices so that they can provide more detailed,  
55 comprehensible and engaging feedback. Technologies may also provide the innovative edge  
56 that can help students engage more effectively with their feedback.

57 Initial investigations into potential technological applications have included automated  
58 feedback from on-line tests (Wieling & Hofman, 2010; Wilson, Boyd, Chen, & Jamal, 2010)  
59 and feedback via the use of podcasts (Ribchester, France & Wheeler, 2007) and audio MP3

60 files (Lunt & Curran, 2010; Merry & Orsmond, 2008; Rotheram, 2009). The use of audio for  
61 feedback provision has been found to be of value to students (Nortcliffe & Middleton, 2008)  
62 and can facilitate discussions between staff and students; Ribchester et al. (2007) argue that  
63 this type of feedback is most effective when utilised in conjunction with well designed  
64 assessment exercises. Merry & Orsmond (2008) found that students appreciated audio  
65 feedback because it was perceived as being of good quality, was easier to understand, had  
66 more depth and was more personal than written feedback. Staff found audio feedback  
67 particularly valuable to explain complex ideas and by adjusting the volume or tone of their  
68 voice they could highlight specific points, and consequently more understanding could be  
69 gained from the spoken word than written text (Merry & Orsmond, 2008).

70 Video has been used successfully in teaching and learning (Abdous & Yoshimura, 2010;  
71 Bracher, 2005) and for peer feedback (Chi, Roy & Hausmann, 2008). Further, Cann (2007)  
72 observes that short videos have a broad acceptance among students and can offer a much  
73 richer format for feedback provision than audio. For example, video recordings offer a  
74 powerful, visual way to provide feedback and there is some initial evidence that these  
75 technologies can augment student learning through the provision of formative feedback  
76 (Abrahamson, 2010; Cann, 2007; Rodway-Dyer & Dunne, 2009). As video is a visual medium  
77 it has the potential to support learning in different ways to other technologies, including the  
78 potential for demonstrations (i.e. *seeing* as opposed to being *told* how to improve  
79 subsequent coursework (Abrahamson, 2010)) and through the use of screen-capture  
80 technology. A further advantage is that, like audio, video files provide a permanent record,  
81 which can be stored and replayed at the students' convenience.

#### 82 *1.4 The ASSET project: Providing another way forward?*

83 The JISC-funded ASSET project was undertaken to develop a new Web 2.0 resource, 'ASSET',  
84 to explore the use of video as a means of enhancing the feedback experience for both  
85 students and staff. The project team designed ASSET as a 'Feedback Loop' to enhance  
86 student and staff engagement with feedback in a step-wise process. By designing ASSET as a  
87 feedback loop it set out the ways in which feedback can become 'feed-forward' into future  
88 work, thus hopefully maximising the benefits of feedback in terms of future performance.  
89 By engaging staff in the process of delivering feedback in a 'novel' way via brief video clips, it

90 was anticipated this might trigger changes in the ways in which they both thought about  
91 and delivered feedback. Similarly, by receiving feedback in a novel, more dynamic way, it  
92 was hoped the students would better engage with the video feedback in comparison to  
93 more traditional methods.

### 94 *1.5 Aims*

95 This paper reports on one of the first systematic attempts to investigate the pedagogic  
96 potential of video to enhance engagement of staff and students with feedback processes  
97 across a range of disciplines. The emphasis was on investigating levels of staff engagement  
98 in terms of the extent to which video influenced their approaches to feedback and whether  
99 or not the use of video enhanced students' use of with feedback in comparison to the ways  
100 in which they would normally receive feedback. In particular, in this paper we aimed to:

- 101 - Establish the current methods of feedback delivery and to identify current  
102 issues/problems for staff and students;
- 103 - Assess whether video technology, as delivered via the ASSET resource, could  
104 address any of the issues raised and thereby enhance the feedback experience for  
105 staff and students.

## 106 **2. Methods**

### 107 *2.1 The ASSET resource*

108 In 2009 an online, interactive resource, 'ASSET', was developed by the project team using  
109 Web 2.0 approaches of interactivity and user-generated content and proprietary CORE  
110 software (Collaborative Online Resource for Education, Pentachoron, Sweden) (Gomez,  
111 2009 The CORE software provided much of the functionality needed but required further  
112 development to include controlled access and search facilities. ASSET was therefore  
113 designed as a platform for storing the digital video files and was designed with a user  
114 interface and functionality to encourage staff to upload brief video files giving, in this first  
115 pilot phase, generic feedback to their students.

116 ASSET provided a user-friendly layout with a search facility; crucially however, there was  
117 controlled access to the resource via staff and students' normal University logins and



118 passwords. The videos created by staff were made available in three distinct access levels  
119 (in a similar way to other video sharing sites, e.g. YouTube). There were 'University level'  
120 videos accessible by all staff and students at the University. These were general videos, for  
121 example, 'How to make the most of your feedback'. The next level, 'Module level' videos  
122 were accessible only to those students and staff associated with particular modules.  
123 Students were then able to create their own third level, 'My playlist', by selecting whichever  
124 of the University and Module-level videos they found most useful.

## 125 *2.2 Piloting the ASSET resource*

126 ASSET was made available to staff and students at the University of Reading for a trial  
127 period during 2009-10. Engagement of academic staff with the project was achieved by  
128 presenting briefing papers at Faculty Board teaching and learning meetings and through  
129 follow-up workshops led by the project team. In this way a wide range of staff from a  
130 number of disciplines (including Arts, Humanities, Business, Law, Life Sciences and Science)  
131 were recruited to the project. 'Top-down' support from senior management and IT support  
132 at the University, via a steering group, were central in ensuring staff were encouraged and  
133 supported to take part in the pilot study.

134 During the pilot study the ASSET resource was populated with brief (2-3 minute) videos by  
135 the academic staff and subsequently by other members of University staff (e.g. study  
136 advisers for University-level videos) over the course of the project. Staff were asked to trial  
137 the use of the ASSET resource for providing feedback to students as a way to supplement  
138 their other methods of feedback provision. In this trial staff were specifically asked just to  
139 provide *generic* feedback so that their involvement with the pilot project wasn't too  
140 onerous.

141 Each member of academic staff taking part was supplied with a webcam and the  
142 Department/School was supplied with a flip video™ ([www.theflip.com](http://www.theflip.com)) or camcorder and  
143 tripod to support the creation of videos in a wide range of contexts. Open source screen  
144 capture software, CamStudio™ ([camstudio.org](http://camstudio.org)), was installed on staff computers and  
145 training and technical support were provided by the project team. The equipment and  
146 training were to enable staff to explore the use of screen-capture as a method for providing

147 feedback to students i.e. 'on-screen' feedback. Staff were given free-reign to create their  
148 own choice and style of feedback videos.

### 149 *2.3 Staff & student surveys*

150 In order to assess the potential pedagogic benefits of using video feedback, two different  
151 sets of questions were designed for staff; one set was completed before the use of the  
152 ASSET resource and one set was completed post-use. Two complimentary sets of questions  
153 were compiled to collect responses from students. The questionnaires were developed  
154 using Bristol Online Survey software (BOS) and the survey link was emailed to all staff  
155 engaged with the project and the students registered on their modules. The questionnaires  
156 included open format and five-point 'Likert' scale questions and were cleared by an Ethics  
157 Committee prior to release. The project website [www.rdg.ac.uk/videofeedback](http://www.rdg.ac.uk/videofeedback) contains the  
158 original questionnaires (under Project Pedagogy). The project Final Report contains detailed  
159 findings from these surveys and reports on the mechanics of using the ASSET resource  
160 (Crook *et al.*, 2010).

161 The pre- and post-use questionnaires were analysed separately and no direct comparisons  
162 were made between these two sets of data. The pre-use questionnaires aimed to collate  
163 data relating to the views, preferences, understanding and experience of current  
164 assessment and feedback practices of both staff and students. The staff questionnaire  
165 comprised 25 questions that gathered background information on staff involved in the  
166 project and about their experiences of providing feedback including; their views and current  
167 practices, the challenges they face and their initial thoughts on using video for feedback.  
168 The student questionnaire comprised 18 questions that gathered background information  
169 and explored their views and experiences of feedback, what they do with their feedback and  
170 the types of feedback they prefer.

171 The staff post-use questionnaire comprised 15 questions which focused on the use of the  
172 ASSET resource; how many and what type of videos the staff had uploaded, how long they  
173 took to create the videos, whether or not they would use video again for feedback provision  
174 and whether the use of video had changed their approach to feedback provision. The  
175 student post-use questionnaire comprised 21 questions which focused on whether they  
176 liked the provision of feedback via video and if they found it useful in comparison to other

177 generic feedback methods, how they used the feedback and whether they would like staff  
178 to keep using video for providing feedback.

### 179 **3. Results**

#### 180 *3.1 Overview of survey participants*

181 Background information about the staff and student participants in the surveys are  
182 summarised in Table 1.

183 Pre-use: Replies were received from 27 staff; there was a roughly equal male:female ratio  
184 (48%:52%) and they represented all Faculties across the University (including Arts &  
185 Humanities, Business School, Life Sciences, Science and Economic & Social Science). Replies  
186 were received from 287 students; there were more female respondents (71%) than males  
187 (29%). The students were at varying stages in their degree programmes ranging from  
188 foundation through first to fourth year undergraduates and some postgraduates.

189 Post-use: Replies were received from 8 staff and 105 students. There were fewer responses  
190 to the post-use questionnaires than the pre-use questionnaires, which is a common  
191 problem with questionnaire data collection. Some of the reduction in participants (staff and  
192 student) was due to technical problems, particularly in the Arts & Humanities Faculty, which  
193 have now been resolved by embedding the ASSET resource into the University's Virtual  
194 Learning Environment. Overall however, the pilot study was still conducted by sufficient  
195 staff and students to make it a valid trial of a novel approach to feedback provision across  
196 the University.

#### 197 *3.2 Current issues for staff in providing feedback to students (results from the pre-use 198 questionnaire)*

199 Prior to using ASSET staff reported that they used a range of methods to provide feedback  
200 to students including written (92.6%), oral, e.g. formal and informal comments given in  
201 classes/tutorials (88.9%) and face-to-face feedback (59.3%). Less than 10% used email,  
202 audio, and video methods. Written feedback was used most often by staff members and  
203 they also considered it to be the students' most preferred method. Staff mainly used  
204 written feedback as they stated this was 'what was expected' from them (25.9%) or because

205 it was the 'easiest/most direct' (14.8%), while 11.1% stated it was the 'most suitable' or  
206 because it 'provides a permanent record'.

207 The amount of time and effort staff spent providing feedback was found to vary  
208 considerably; most spent less than 10% of their working week, but some spent over 50% of  
209 their time on feedback provision. However all staff acknowledged that their methods of  
210 feedback could be improved. Most staff (84.6%) made attempts to monitor the  
211 effectiveness of their feedback, for example, by checking for changes/improvements in  
212 students' subsequent work (34.6%) or through feedback forms/follow-up sessions with  
213 students (26.9%).

214 Staff listed concerns they had about providing feedback to students and these  
215 predominantly fell into four main categories (staff could list more than one concern):

- 216 • *Engagement*: Making sure that students understand and engage (i.e. actively make  
217 use of) the feedback provided;
- 218 • *Efficiency*: Using staff time in an efficient manner to generate quality feedback;
- 219 • *Timeliness*: Returning the feedback in a timely manner (i.e. in a timeframe that  
220 enables students to enact on the feedback for a future assignment);
- 221 • *Quality*: Providing understandable feedback that gives students the opportunity to  
222 use it for their learning and improvement in subsequent assignments.

### 223 3.3 Current issues for students in receiving feedback (results from the pre-use questionnaire)

224 The students expressed a preference for written feedback returned with their work and for  
225 feedback through one-to-one discussions with staff, whereas audio/video feedback was the  
226 least common and least preferred method prior to the use of the ASSET resource (Table 2).  
227 However, students were able to articulate the importance of feedback to their learning; of  
228 those students that had already completed at least one year's study 84.9% stated that  
229 feedback had been important during their previous year of study.

230 Students were asked what they normally did with their feedback, which is summarised in  
231 Table 3. Most stated that they read the written comments on their assignments and often  
232 read them more than once, with fewer students stating that they discuss their feedback  
233 with others or go to see the person who set the work. Table 4 summarises the main ways in

234 which students' stated they'd made use of feedback with 95.4% of them stating that they  
235 use the feedback they receive on their work; 47% of the students used feedback to inform  
236 future pieces of work while 20.6% used it to understand the good/bad points in their work.  
237 However, the students were generally less happy with certain aspects (mainly the quality) of  
238 the feedback they received (Table 5). As shown in Table 5, the students were happy to use  
239 feedback to evaluate their current work and to work effectively in later assignments, but  
240 they stated that their feedback failed to make it clear exactly how to improve their future  
241 performance and how to think differently about how they worked.

242 Some students (22.9%) stated that they regularly go to see the member of staff who set  
243 their coursework to discuss their feedback. Their main reasons for going were to better  
244 understand what was said/written by them (37.6%) and to seek advice on how to improve  
245 their performance (40.4%). Of those students that tended not to talk with staff about their  
246 coursework and feedback, the overriding reason given was that the students felt  
247 uncomfortable approaching academic staff (75%).

#### 248 *3.4 Staff experiences of using video for feedback provision (results from the post-use* 249 *questionnaire)*

250 During the ASSET pilot staff each uploaded an average of five videos (the range was 2-20  
251 videos). Most video clips were of the 'talking head' style (87.5%), while half of the staff also  
252 used screencasts and one used it for voice casts. Seven out of the eight members of staff  
253 who completed the post-use survey enjoyed using video and *all* would consider using video  
254 again for feedback provision. The majority (87.5%) said they would use it again for providing  
255 generic feedback or feedback to small groups (37.5%) (Fig. 2) and all but one would  
256 recommend to colleagues using video for feedback provision.

257 Staff identified advantages of video feedback, namely that videos can be re-viewed, are  
258 accessible, like a one-to-one session and students took more notice of them; one of the  
259 main challenges identified by staff was that it took a long time to get familiar with and use  
260 the ASSET resource (Table 6). The following points, centred around the main issues of  
261 engagement, efficiency, quality and timeliness show how the data gathered on staff  
262 experiences of video feedback can provide evidence of how video technology might/not

263 address the problems that staff had identified with feedback provision prior to using the  
264 ASSET resource:

265 *Engagement of students:* The general perception was that students took a similar  
266 amount of notice of the video feedback as they did to the normal mechanisms of feedback.  
267 On a scale of 1 (much more notice) to 5 (much less notice) the median response was 3 (n=8)  
268 with an inter-quartile range of 1. However, the data from the student survey showed that  
269 students felt that they did take more notice of the generic video feedback in comparison to  
270 other forms of generic feedback (Section 3.5).

271 *Efficiency:* Each video took most staff less than 10 minutes to produce but in one  
272 instance it took over 30 minutes. However, in general, video was found to take a similar  
273 amount of time to other methods of generic feedback provision. On a scale of 1 (video was  
274 much more time consuming) to 5 (video was much less time consuming) the median  
275 response was 3.5 (n=8) with an inter-quartile range of 1.5.

276 *Timeliness:* Two of the main advantages of video highlighted by staff included the  
277 speed at which the feedback (and feed-forward) could be provided and it's accessibility;  
278 meaning that the students could access the feedback as soon as it has been uploaded. The  
279 main advantage cited by staff (Table 6) is that video feedback can be re-played, therefore  
280 allowing students to quickly access the feedback/feed-forward when completing a similar  
281 piece of work in the future.

282 *Quality:* A significant pedagogic finding from the ASSET pilot was that the majority of  
283 staff (75%) replied that the use of video had positively *changed* their approach to feedback  
284 provision. Staff quotes from the questionnaires revealed these changes: "I have more  
285 sympathy with those students who struggle with written forms of feedback, and try to  
286 emphasise the principal things rather than lose these in the detail"; "it opened up my mind  
287 generally to alternative forms of feedback".

### 288 *3.5 Student experiences of receiving feedback via video (results from the post-use* 289 *questionnaire)*

290 80% of the students liked the use of video as a way of receiving feedback and they detailed  
291 the ways in which they would like their lecturers to continue using it (Fig 2), for example, for

292 feedback to small groups (51.4%) or for generic feedback (47.6%), but 31.4% thought it  
293 would work also for one-to-one feedback provision. Quotes from the post-use student  
294 questionnaires included: "I could engage better, absorbing more information with video  
295 feedback"; "it was very concise and useful at anytime for reference"; "provides a quick and  
296 accessible means for feedback"; "meant the lecturer could give clearer, more in-depth  
297 feedback".

298 *Engagement:* Students indicated that they had actively engaged with the feedback  
299 videos, with many of them discussing the video feedback with other students (58.1%). Some  
300 viewed the videos with their peers (13.3%) and 61% reported viewing the same video more  
301 than once (one student watched the same video six times). An important finding was that  
302 60% of the students said that receiving video feedback had encouraged them to take more  
303 notice of the feedback compared to normal methods of generic feedback provision.  
304 Examples of how the students stated that they'd used the video feedback are given in Table  
305 4.

306 *Quality:* The main advantage of video cited by students was that the feedback  
307 provided was easy/clear to understand in comparison to normal methods of feedback  
308 provision (e.g. written, oral). Further, they suggested that the feedback was more extensive,  
309 informative, the key points were better emphasised and that it aided their visualisation of  
310 the task through demonstrations and/or diagrams.

311 The students identified a number of other advantages of receiving feedback by video (Table  
312 6) but also cited various disadvantages. Most of these focussed on the issues of receiving  
313 *generic* feedback rather than individual feedback along with some of the technical  
314 'snagging' difficulties that were encountered when first using the ASSET resource, for  
315 example, slow download of video files on some computers.

## 316 **4. Discussion**

### 317 *4.1 The status quo*

318 Staff are under pressure to provide high quality feedback to students in a prompt manner,  
319 often to large and diverse cohorts. Increasingly institutions are facing significant staff  
320 resourcing issues and coupled with changes in the nature of students' expectations of



321 Higher Education, the need to enhance feedback processes is ever more pressing. The  
322 provision of feedback to students is both a core element of the learning process (Hattie &  
323 Timperley, 2007) and of the teaching responsibilities of staff, but it can easily become very  
324 time-consuming especially in the face of other pressures on staff time.

325 This study includes staff that, although self-selected, represent a broad range of subject  
326 areas, teaching experiences and student cohort sizes. The results showed that prior to using  
327 video these staff used a range of methods for feedback provision, including written, oral,  
328 on-line quizzes, peer-review and email. These approaches were used for a variety of  
329 reasons, including because that 'what was expected' of them by students or because they  
330 were the easiest/quickest methods to generate feedback. This latter reason is particularly  
331 pertinent given the increase in student numbers on individual modules and the increases in  
332 the student:staff ratio (Association of University Teachers [AUT] Research, 2005; Fowler,  
333 2005) but it clearly has implications for student support, learning and progression, for  
334 example, with large student cohorts it is difficult for staff to provide high quality, tailored  
335 feedback for each individual student.

336 The results of the ASSET pilot showed that the students' most preferred methods of  
337 feedback match those methods most frequently used (Table 2). This may be due to an  
338 actual preference or possibly just familiarity; whichever of these it is, current methods seem  
339 to be providing the students with information about good/bad points in the marked piece of  
340 work (Table 5). These findings are encouraging; however, it is important for students to  
341 become self-regulated learners (Boud & Falchikov, 2006; Nicol & Macfarland-Dick, 2006)  
342 and to understand the meaning of their feedback in relation to their work in general (Sadler,  
343 2010) and start to use that information to improve (Orsmond *et al.*, in press; Sadler, 1989).  
344 This does not come easily to all learners (Chanock, 2000; Weaver, 2006) and our data  
345 showed that a significant number of students were not necessarily using their feedback in  
346 the most effective ways (Table 5). In order to help this process, students need good quality  
347 feedback promptly after submission of the work (Huxham, 2007). Ideally, they require this  
348 *before* starting their next piece of coursework, with elements of feed-forward to allow them  
349 to focus their efforts appropriately to improve their future performance (Duncan, 2007;  
350 Gibbs & Simpson, 2004).



#### 351 4.2 Suggestions for improvements to current practice

1  
2  
3 352 The main issues with feedback provision as identified by staff were not surprising student  
4  
5 353 engagement, time efficiency and the provision of good quality feedback in a timely manner.  
6  
7 354 The provision of a rapid, *generic*, response to all students is one way for staff to resolve  
8  
9 355 some of these issues prior to the provision of individual, tailored feedback. After quickly  
10  
11 356 skim-reading a cohort's work the key points that were done well/badly are usually apparent,  
12  
13 357 so if these can be quickly identified and promptly relayed to the students, for example in a  
14  
15 358 brief video, students are then able to utilise this information in advance of completing the  
16  
17 359 next assignment. Provision of prompt, generic feedback to sum up the best/not-so-good  
18  
19 360 elements of the 'class performance' often provides 'enough for now' information to enable  
20  
21 361 the students to progress with their studies while staff undertake the more time-consuming  
22  
23 362 task of providing individual feedback.  
24

#### 25 363 4.3 Can video technology help staff to improve current feedback practices?

26  
27  
28 364 The provision of generic feedback was considered to be one of the main ways in which both  
29  
30 365 staff and students could envisage video technology being advantageous (Fig. 2). Certainly, a  
31  
32 366 number of the comments made by staff on the use of video related to the ability to produce  
33  
34 367 rapid, generic video clips: "has made giving generic feedback quicker"; "generic feedback  
35  
36 368 can be provided directly and just as efficiently"; "generic comments for feedback and  
37  
38 369 feedforward were easy to communicate to large groups"; "it allowed very quick, generic,  
39  
40 370 accessible and impressionistic feedback to be given". The use of video can also be extremely  
41  
42 371 effective to articulate assessment criteria when an assignment is set, i.e. to spell out what  
43  
44 372 makes a good/not-so-good poster, presentation or report etc. The advantage of video is  
45  
46 373 that these pre-assignment clips can be re-played as students prepare their work and they  
47  
48 374 may also be re-used by staff in a variety of contexts.  
49

50 375 By providing many of the key messages to all students in one generic video, it has potential  
51  
52 376 to make the process of producing individual feedback more efficient as the main points have  
53  
54 377 already been covered, thus allowing more time for staff to spend on delivering tailored  
55  
56 378 feedback to individual students. It can also enhance the experience for staff by removing  
57  
58 379 some of the repetitive element of feedback provision by saying all those points in a single,  
59  
60 380 all-encompassing video.  
61  
62  
63  
64  
65

381 Planning is an important element of creating video files (Abrahamson, 2010). By thinking  
382 about the generic feedback and identifying 'signposts' before recording a video, staff can  
383 produce a structured response to help highlight what was expected (feedback) and what is  
384 expected to improve future performance (feed-forward). This 'time for thought' has  
385 important implications for the quality of the feedback. By providing a new medium for  
386 feedback provision, most staff in this study found that the use of video had prompted them  
387 to think how to use the feedback opportunity more wisely and to think more broadly about  
388 feedback processes. This could avoid the recognised problem with repetitive written  
389 feedback where a large number of comments are 'unlikely to be useable' in helping  
390 students understand how to improve (Walker, 2009). This difference in approach by staff  
391 evidently had an effect on the students in this study as 60% of students reported taking  
392 *more* notice of video feedback than other generic feedback methods. This is important  
393 evidence that video can have an impact on student engagement with feedback and if it can  
394 be achieved at a generic level, this is encouraging for the use of video for individual  
395 feedback (where practical and where resources permit).

#### 396 *4.4 Will students benefit?*

397 Following the ASSET pilot 80% of students reported liking the use of video feedback;  
398 however it was interesting to note that video was the least preferred feedback method for  
399 students prior to the use of the ASSET resource, perhaps because they had not yet  
400 experienced the full potential of such technologies in feedback provision. Although some  
401 students (17%) disliked video feedback because it was 'generic' or deemed to be  
402 impersonal, the majority seemed to appreciate how video could provide generic feedback in  
403 a more engaging way. Staff could articulate assessment criteria and key points in a clear  
404 fashion with video, thereby overcoming misinterpretations of written feedback and  
405 problems of reading illegible handwriting. Pre-assignment videos were popular with staff  
406 and can be made available at the time the assignment is set and crucially can be replayed by  
407 students. The pilot study showed that video clearly satisfied the students' expectations for  
408 feedback to be understandable/clear as this was listed as their top advantage of video  
409 feedback (Table 6).

1  
2 411 Staff described the use of video as “like a face-to-face session” and students also felt the  
3  
4 412 same way “it felt like I was getting advice in the first person”. Students also appreciated the  
5  
6 413 emotive aspects of video; “it was easier to gauge the reaction and emphasis of a lecturer by  
7  
8 414 watching a video than it was through written feedback” and “watching and listening to  
9  
10 415 someone speak says more than reading feedback”. The personal aspect of video feedback  
11  
12 416 may also help to break down any real or perceived barriers between students and staff and  
13  
14 417 this has considerable potential when dealing with part-time or overseas students. One of  
15  
16 418 the problems highlighted in the pre-use data was that many students don’t tend to go to see  
17  
18 419 their tutor to ask further questions about feedback they have received (Table 3). There are  
19  
20 420 many reasons for this including a reluctance to approach an academic member of staff.  
21  
22 421 Video has the potential to overcome these concerns as the member of staff is clearly  
23  
24 422 identifiable and it can also help portray staff in a more informal context. In addition,  
25  
26 423 individuals vary in their learning styles (Kolb, 1984) and by using a mixture of visual (video)  
27  
28 424 and other feedback methods a broader range of learners can be supported.

29  
30 425 Receiving prompt feedback is important in student learning and, as discussed, the ASSET  
31  
32 426 resource provided a way for staff to generate and rapidly disseminate generic feedback (and  
33  
34 427 indeed individual feedback in some instances where class sizes were small). Since the videos  
35  
36 428 are available online, students can access their feedback remotely and on-demand without  
37  
38 429 having to travel into University. The feedback can also be viewed at the most convenient  
39  
40 430 time and place for the learner; this flexibility was another of the major advantages of video  
41  
42 431 that students identified, along with the ability to be able to re-play videos when required.  
43  
44 432 Such flexibility is now becoming more viable as techniques, such as live-video streaming, are  
45  
46 433 able to deliver extended learning opportunities to ‘non-traditional’ students (Abdous &  
47  
48 434 Yoshimura, 2010).

49  
50 435 Students are very receptive to new types of information and computing technology and  
51  
52 436 there is a real opportunity for Web 2.0 technologies to impact on learning (JISC, 2008).  
53  
54 437 ASSET was constructed using Web 2.0 approaches of interactivity and user-generated  
55  
56 438 materials to provide a way to facilitate and enhance feedback provision. As part of this,  
57  
58 439 students had the opportunity to post comments on the generic video feedback they  
59  
60 440 received, thereby completing the ‘feedback loop’ (Fig. 1). However, the students were not  
61  
62  
63  
64  
65

441 required to do this during the pilot, but with encouragement this facility could provide an  
442 important 'missing link' in the feedback dialogue process between staff and students. For  
443 instance, students could be asked to post comments in response to a given video as a basis  
444 for discussions in a following class, or as a pre-requisite to a subsequent assignment.

445  
446 Encouraging such dialogue (Nicol, 2010; Carless, 2006) would concur with findings from a  
447 recent survey of the use of technology in feedback which concluded that "the availability of  
448 feedback stored online for future reference augmented by the opportunity for, and  
449 expectation of, further dialogue provides the greatest benefit to future learning"  
450 (Hepplestone, Parkin, Holden, Irwin & Thorpe, 2009). Resources like ASSET, when  
451 embedded into a virtual learning environment (VLE), can provide a platform for students  
452 and staff to engage with feedback as a dialogue and ultimately should provide beneficial  
453 impacts on student learning.

#### 454 455 *4.5 Potential pitfalls and opportunities for further research*

456 As with most pedagogic innovations, the impact of video feedback is affected by individual  
457 preferences; some students found it a more personal way to receive feedback "it's like  
458 having a one-to-one meeting with the lecturer" while others felt the opposite "...de-  
459 personalises the feedback experience". Also, it is possible that the interest and engagement  
460 of staff and students in the use of video for feedback provision may have been affected by  
461 its novelty value. However, this is true for any innovation and is not restricted to the use of  
462 video technologies.

463 Some of the main disadvantages articulated by students of receiving video feedback were a  
464 range of technical problems associated with the use of the ASSET resource itself (Table 6).  
465 Navigation of the site, slow loading videos, poor video/sound quality plus a range of other  
466 technical problems were all cited as disadvantages. However, the development of new  
467 technologies, refinement of the user interface and increasing bandwidth capacity is likely to  
468 reduce some of these technical access issues. Such problems are inherent in the early  
469 developmental phase of new technologies and further development of the use of video for  
470 feedback is being integrated within the University's virtual learning environment,  
471 Blackboard™. In this way, videos can be embedded™ within module learning materials,

472 making it much easier for staff and students to navigate as they are already familiar with the  
473 VLE whilst also avoiding the types of compatibility problems that were encountered during  
474 the pilot trial of the ASSET resource.

475 Brown (2007) states that “giving students detailed and developmental formative feedback is  
476 the single most useful thing we can do for our students”. With the NSS and other student  
477 ‘drivers’ continuing to put assessment and feedback in the limelight, it is important that  
478 additional pedagogic research takes place to assess the role of video (and indeed other  
479 technologies) in enhancing feedback provision for students. This could be achieved, for  
480 example, by conducting an intervention study similar to Wilson *et al.* (2011) to examine  
481 whether the individual performances of students that received video feedback are  
482 significantly improved in comparison to when they receive other forms of feedback on the  
483 same type of assignment.

## 484 **5. Conclusions**

485 Piloting the ASSET resource for using video to provide feedback to students provided a new  
486 approach to engage staff and students in the feedback process. The study highlighted how  
487 the use of video can potentially solve some of the existing problems with feedback  
488 provision, namely issues of student engagement with feedback, time-efficiency for staff,  
489 timeliness and quality of feedback received by students. Indeed, video feedback has the  
490 potential to meet many of the requirements for effective feedback as outlined by Gibbs &  
491 Simpson (2004). Importantly, this study has revealed that the use of video instigated  
492 positive changes in the ways in which staff thought about and developed feedback for their  
493 students; and for students, the use of video enhanced their active engagement with the  
494 feedback they received. Following the pilot study the majority of staff and students  
495 surveyed would like to continue to use video as a method of feedback provision, which has  
496 been used to inform the development of video embedding within the institution’s VLE.

### 497 *5.1 So, does the use of video enhance the feedback experience?*

498 The data in this study indicate that the use of video can enhance both staff and students’  
499 respective feedback experiences. Moreover, video technology has the potential to improve  
500 opportunities for students to benefit from remotely-accessible feedback that they might

501 otherwise miss; this could be especially important for part-time, over-seas and distance  
502 learners. Furthermore, this study has shown that video can be used for both generic and  
503 individual feedback (the latter however, only being practicable where staff: student ratios  
504 are low and/or where resources allow).

## 505 **References**

- 506 Abrahamson, E. (2010). Assessment through video-feedback on an undergraduate sports  
507 rehabilitation programme. Higher Education Academy [HEA] Case Study. Retrieved  
508 from [http://www.heacademy.ac.uk/assets/hlst/documents/case\\_studies/147\\_abrahamson](http://www.heacademy.ac.uk/assets/hlst/documents/case_studies/147_abrahamson_video-feedback.pdf)  
509 [video-feedback.pdf](http://www.heacademy.ac.uk/assets/hlst/documents/case_studies/147_abrahamson_video-feedback.pdf)
- 510 Abdous, M. & Yoshimura, M. (2010). Learner outcomes and satisfaction: A comparison of  
511 live video-streamed instruction, satellite broadcast instruction, and face-to-face instruction.  
512 *Computers & Education*, 55, 733-741.
- 513 Association of University Teachers [AUT] Research (2005). Packing them in – The student-to-  
514 staff ratio in UK higher education. Retrieved from  
515 [http://www.ucu.org.uk/media/pdf/c/j/ssr\\_packingthem.pdf](http://www.ucu.org.uk/media/pdf/c/j/ssr_packingthem.pdf)
- 516 Bevan, R., Badge, J., Cann, A., Willmott, C. & Scott, J. (2008) Seeing eye-to-eye? Staff and  
517 student views on feedback. *Bioscience Education*, 12, 1.
- 518 Biggs, J. B. (2003). *Teaching for quality learning at university: what the student does*. Society  
519 for Research into Higher Education & Open University Press, Maidenhead, UK.
- 520 Boud, D. & Falchikov, N. (2006). Aligning assessment with long-term learning. *Assessment*  
521 *and Evaluation in Higher Education*, 31, 399-413.
- 522 Brown, S. (2007). Feedback & feed-forward. *Centre for Bioscience Bulletin*, 22, 1.
- 523 Bracher, M., Collier, R. Ottewill, R., & Shephard, K. (2005). Accessing and engaging with  
524 video streams for educational purposes: experiences, issues and concerns. *ALT-J, Research*  
525 *in Learning Technology* 13, (2), 139–150.
- 526 Cann, A. J. (2007). Podcasting is dead. Long live video! *Bioscience Education*, 10, (C1).

- 527 Carless, D. (2006). Differing perceptions in the feedback process. *Studies in Higher*  
528 *Education, 21*, 219-233.
- 529 Chanock, K. (2000). Comments on essays: do students understand what tutors write?  
530 *Teaching in Higher Education, 5*, 95-105.
- 531 Chi, M. T. H., Roy, M. & Hausmann, R. G. M. (2008). Observing dialogues collaboratively:  
532 Insights about human tutoring effectiveness from vicarious learning. *Cognitive Science, 32*,  
533 301-341.
- 534 Cowie, B., & Bell, B. (1999). A model of formative assessment in science education.  
535 *Assessment in Education, 6*, 101-116.
- 536 Crook, A. C., Park, J. R., Lawson, C. S., Lundqvist, K. O., Drinkwater, R., Walsh, J., Gomez, S.,  
537 Orsmond, P. and Maw, S. J. (2010). ASSET: Moving Forward Through Feedback. Joint  
538 Information Systems Committee [JISC] Final Report. Retrieved from  
539 [http://www.reading.ac.uk/web/FILES/asset/ASSET\\_final\\_report.pdf](http://www.reading.ac.uk/web/FILES/asset/ASSET_final_report.pdf)
- 540 Duncan, N. (2007). 'Feed-forward': improving students' use of tutors' comments.  
541 *Assessment and Evaluation in Higher Education, 32*, 271-283.
- 542 Fowler, G. (2005). An analysis of Higher Education staff attitudes in a dynamic environment  
543 FORUM – The Arena for Discussion and Reflection on Current Issues in Higher Education.  
544 *Tertiary Education and Management, 11*, 183-197.
- 545 Gibbs, G. & Simpson, C. (2004). Conditions under which assessment supports students'  
546 learning. *Learning and Teaching in Higher Education, 1*, 3-31.
- 547 Glover, C. & Brown, E. (2006). Written feedback for students: too much, too detailed or too  
548 incomprehensible to be effective? *Bioscience Education, 7*, 3.
- 549 Gomez, S. (2009). A report on the software system for ASSET. Retrieved from  
550 [http://www.reading.ac.uk/web/FILES/asset/Appendix\\_1\\_final\\_report\\_ASSET\\_IT\\_Report.pdf](http://www.reading.ac.uk/web/FILES/asset/Appendix_1_final_report_ASSET_IT_Report.pdf)
- 551 Hattie, J. & Timperley, H. (2007). The power of feedback. *Review of Educational Research,*  
552 *77, (1)*, 81.



- 553 Hepplestone, S. & Mather, R. (2007). Meeting rising student expectations of online  
554 assignment submission and online feedback'. *Proceedings of the 11th International*  
555 *Computer-Assisted Assessment Conference 2007, Loughborough, 10-11 July 2007*. Retrieved  
556 from  
557 [http://www.caaconference.co.uk/pastConferences/2007/proceedings/Hepplestone%20S%20Mather%20R%20n1\\_formatted.pdf](http://www.caaconference.co.uk/pastConferences/2007/proceedings/Hepplestone%20S%20Mather%20R%20n1_formatted.pdf)
- 559 Hepplestone, S., Parkin, H., Holden, G., Irwin, B. & Thorpe L. (2009). *Technology, Feedback,*  
560 *Action!: Impact of learning technology on students' engagement with feedback*. HEA Final  
561 Report.
- 562 Higher Education Funding Council for England [HEFCE]<sup>a</sup> (2010). *National Student Survey.*  
563 *Findings and trends 2006 to 2009*. HEFCE Report. Retrieved from  
564 [www.hefce.ac.uk/pubs/hefce/2010/10\\_18/](http://www.hefce.ac.uk/pubs/hefce/2010/10_18/)
- 565 HEFCE<sup>b</sup> (2010). *NSS 2010 shows continued high levels of satisfaction among higher*  
566 *education undergraduate students*. HEFCE News. Retrieved from  
567 [www.hefce.ac.uk/news/hefce/2010/nssresult.htm](http://www.hefce.ac.uk/news/hefce/2010/nssresult.htm)
- 568 Huxham, M. (2007). Fast and effective feedback: are model answers the answer?  
569 *Assessment and Evaluation in Higher Education*, 32, 601-611.
- 570 Irons, A. (2008). *Enhancing learning through formative assessment and feedback*. Key  
571 Guides for effective teaching in Higher Education. Abingdon, UK: Routledge.
- 572 Juwah, D., Macfarlane-Dick, B., Matthew, D., Nicol, D. & Smith, B. (2004). *Enhancing student*  
573 *learning through effective formative feedback*. The Higher Education Academy, York, UK.
- 574 Joint Information Systems Committee [JISC] (2008). *Great Expectations of ICT: How Higher*  
575 *Education Institutions are measuring up*. JISC Report. Retrieved from  
576 [www.jisc.ac.uk/media/documents/publications/jiscgreatexpectationsfinalreportjune08.pdf](http://www.jisc.ac.uk/media/documents/publications/jiscgreatexpectationsfinalreportjune08.pdf)
- 577 Kane, J. & Williams, D. (2008). *Exploring the National Student Survey. Assessment and*  
578 *feedback issues*. HEA Report. Retrieved from  
579 [www.heacademy.ac.uk/assets/York/documents/ourwork/nss/NSS\\_Assessment\\_and\\_Feedb](http://www.heacademy.ac.uk/assets/York/documents/ourwork/nss/NSS_Assessment_and_Feedback_ExecSummary_31.04.08.pdf)  
580 [ack\\_ExecSummary\\_31.04.08.pdf](http://www.heacademy.ac.uk/assets/York/documents/ourwork/nss/NSS_Assessment_and_Feedback_ExecSummary_31.04.08.pdf)

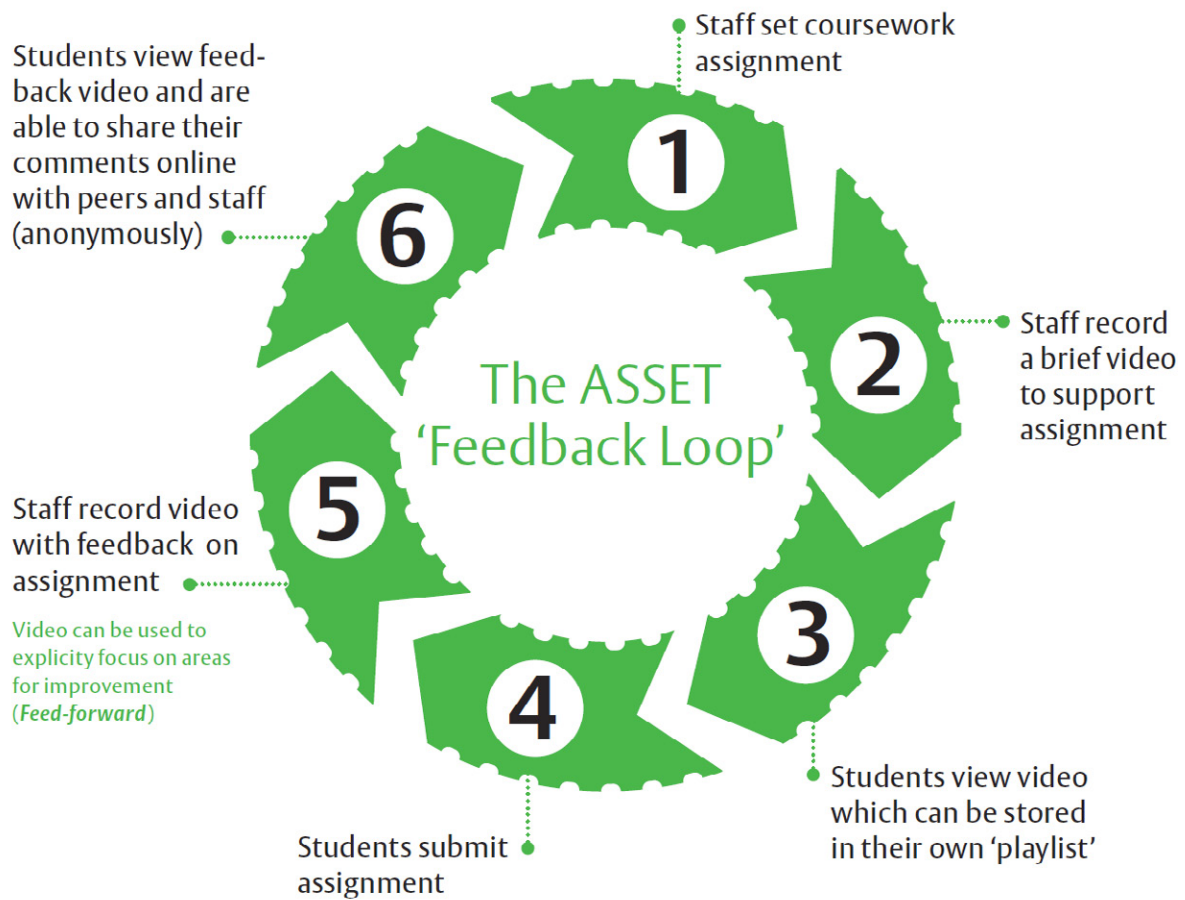


- 581 Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*.  
582 Englewood Cliffs, NJ: Prentice-Hall.
- 583 Lizzio, A. & Wilson, K. (2008). Feedback on assessment: students' perceptions of quality and  
584 effectiveness. *Assessment and Evaluation in Higher Education*, 33, 263-275.
- 585 Lunt, T. & Curran, J. (2010). 'Are you listening please?' The advantages of electronic audio  
586 feedback compared to written feedback. *Assessment and Evaluation in Higher Education*,  
587 35, 759-769.
- 588 Merry, S. & Orsmond, P. (2008). Students' attitudes to and usage of academic feedback  
589 provided by audio files. *Bioscience Education*, 11, 3.
- 590 Orsmond, P. & Merry, S. (2011). Feedback alignment: effective and ineffective links between  
591 tutors' and students' understanding of coursework feedback. *Assessment and Evaluation in*  
592 *Higher Education*, 36, 125-136.
- 593 Orsmond, P., Maw, S. J., Crook, A. C., Park, J. R., Gomez, S., Drinkwater, R., Lawson, C. &  
594 Lundqvist, K. O. (In press) Moving feedback forward: theory to practice. *Assessment and*  
595 *Evaluation in Higher Education*.
- 596 Price, M. (2007) Should we be giving less written feedback? *Centre for Bioscience Bulletin*,  
597 22, 9.
- 598 Nicol, D. (2010). From monologue to dialogue: Improving written feedback processes in  
599 mass higher education. *Assessment and Evaluation in Higher Education*, 35, 501-517.
- 600 Nicol, D. J. & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning:  
601 a model and seven principles of good feedback practice. *Studies in Higher Education*, 31,  
602 199-218.
- 603 Nortcliffe, A., & Middleton, A. (2008). A three year case study of using audio to blend the  
604 engineer's learning environment. *Engineering Education*, 3 (2), 45-57.
- 605 Ribchester, C., France, D. & Wheeler, A. (2007). *Podcasting: a tool for enhancing assessment*  
606 *feedback?* Education in a Changing Environment, Volume 4, Salford University, 12-14  
607 September 2007. Informing Science, 131-139.

- 608 Rodway-Dyer, S. & Dunne, E. (2009). *Technology enhanced feed-forward for learning*. HEA  
609 Final Report. Retrieved from <http://www.heacademy.ac.uk/assets/EvidenceNet/Exeter.doc>  
610 Rotheram, B. (2009). *Sounds Good*. JISC Final Report. Retrieved from  
611 <http://www.jisc.ac.uk/publications/reports/2009/soundsgoodfinalreport.aspx>  
612 Sadler, D.R. (1983). Evaluation and the improvement of academic learning. *Journal of Higher*  
613 *Education, 54*, 60-79.  
614 Sadler, D.R. (1989). Formative assessment and the design of instructional systems.  
615 *Instructional Science, 18*, 119-144.  
616 Sadler, D.R. (2010). Beyond feedback: developing student capability in complex appraisal.  
617 *Assessment and Evaluation in Higher Education, 35*, 535-550.  
618 Smith, B. (2007). Is assessment really for learning? *Centre for Bioscience Bulletin, 22*, 11.  
619 SurrIDGE, P. (2008). *The National Student Survey 2005-2007: Findings and Trends*. HEFCE  
620 Report. Retrieved from [www.hefce.ac.uk/pubs/rereports/2008/rd12\\_08/rd12\\_08.pdf](http://www.hefce.ac.uk/pubs/rereports/2008/rd12_08/rd12_08.pdf)  
621 Walker, M. (2009). An investigation into written comments on assignments: do students find  
622 them usable? *Assessment and Evaluation in Higher Education, 34*, 67-78.  
623 Weaver, M. R. (2006). Do students value feedback? Student perceptions of tutors' written  
624 responses. *Assessment and Evaluation in Higher Education, 31*, 379-394.  
625 Wieling, M. B. & Hofman, W. H. A. (2010). The impact of online video lecture recordings and  
626 automated feedback on student performance. *Computers & Education, 54* (4), 992-998. doi:  
627 10.1016/j.compedu.2009.10.002  
628 Wilson, K., Boyd, C., Chen, L. & Jamal, S. (2011). Improving student performance in a first-  
629 year geography course: Examining the importance of computer-assisted formative  
630 assessment. *Computers & Education, 57*, (2), 1493-1500.  
631 doi:10.1016/j.compedu.2011.02.011

632

633 **Figure 1. The ASSET 'Feedback Loop'; showing the design of the ASSET video feedback**  
 634 **resource.**

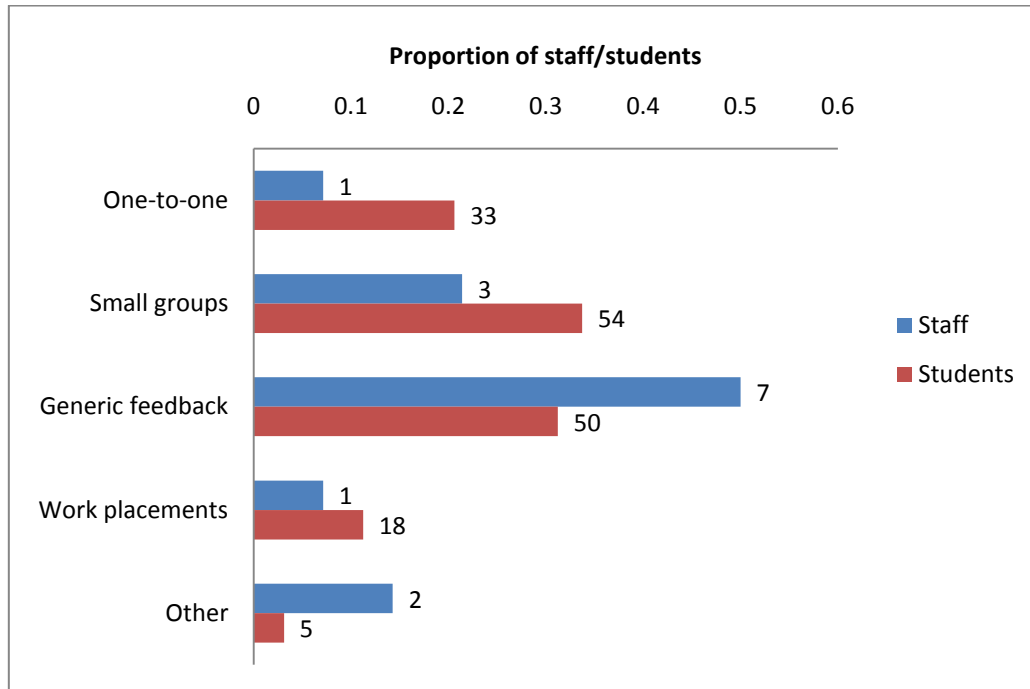


635

636

ACCEPTED

637 **Figure 2. Ways in which staff (n=8) and students (n=105) would like to continue the use of**  
638 **video technology for feedback provision. Numbers refer to numbers of individuals**  
639 **(individuals could choose more than one option). 'Other' suggested uses included the**  
640 **provision of feed-forward, supplemental lecture information and exam tips.**



641

642

643

644 **Table 1. Profiles of the staff and students engaged with the ASSET pilot study.**

Category	Pre-use survey		Post-use survey	
	Frequency	Percentage	Frequency	Percentage
<b>Staff</b>				
Gender				
- Male	13	48.1%		
- Female	14	51.9%		
Years teaching at the University				
- 0-1 years	2	7.4%		
- 2-5 years	8	29.6%		
- 6-10 years	9	33.3%		
- 11+ years	8	29.6%		
Faculty				
- Arts & Humanities	10	37.0%	0	0%
- Henley Business School	6	22.2%	1	12.5%
- Life Sciences	6	22.2%	3	37.5%
- Science	2	7.4%	1	12.5%
- Social Sciences	2	7.4%	3	37.5%
- Not attached to a Faculty	1	3.7%	0	0%
Confidence in using computer technology in teaching				
- Always	6	22.2%		
- Mostly	20	74.1%		
- Sometimes	1	3.7%		
- Rarely	0	0%		
<b>Students</b>				
Gender				
- Male	83	28.9%	40	38.1%
- Female	204	71.1%	65	61.9%
Year group				
- Foundation	21	7.3%	4	3.8%
- First	92	32.1%	19	18.1%
- Second	82	28.6%	54	51.4%
- Third	24	8.4%	9	8.6%
- Fourth	57	19.9%	19	18.1%
- Postgraduate	11	3.8%	0	0%
English as first language?				
- Yes	208	72.59%	86	81.9%
- No	79	27.5%	19	18.1%
Confidence in using computer technology				
- Always	84	29.3%		
- Mostly	172	59.9%		
- Sometimes	28	9.8%		
- Rarely	2	0.7%		
- Never	1	0.3%		
Use of social networking websites				
- Regular (>twice a week)	260	90.6%		
- Sometimes	19	6.6%		
- Rarely (less than once a month)	1	0.3%		
- Never	7	2.4%		

645 **Table 2. Comparison of student preferences for current feedback methods. Data show the**  
 646 **number of students that have received each type of feedback (n=287) and their preferred**  
 647 **methods; expressed on a scale of 1 to 5 (where 1 was least preferred and 5 was most**  
 648 **preferred).**

Feedback type	No. of students received	Median preference	Interquartile range
Comments about your work and returned with your essay/assignment	179	5	1
Discussion with lecturer or personal tutor during a one-to-one meeting	136	5	1
Marks given for your work	203	4	2
Comments about your work via email	79	4	1
Comments to the class by the lecturer in seminars or group working sessions	192	3	2
General comments to the whole class regarding results of set work	174	3	2
Results of online quizzes/tests	161	3	2
Comments about your work via VLE	85	3	2
Comments/suggestions made by a fellow student about your work	149	2	2
Audio and/or video	25	2	2

649

650

**Table 3. Showing what students do with their feedback (pre-use); answers for each question on a five-point scale: Always, Mostly, Sometimes, Rarely, Never. The n values refer to the number of students who responded to each question.**

	<b>Most frequent (median) answer</b>
I discuss my feedback with others (n=286)	Mostly (39.9%)
I read through the written feedback more than once (n=286)	Always (41.6%)
I go to see the person who set my work to discuss the feedback (n=280)	Sometimes (42.9%)
With written feedback, if I get the mark I was expecting, I still read the marker's comments (n=286)	Always (70.3%)
If I get feedback after a module has finished, I still find it useful (n=284)	Mostly (38.7%)

**Table 4. Indicating ways in which students made use of their feedback. The n values represent the number of students that responded to the open question of “how did you make use of your feedback?” and their answers were grouped into categories.**

	Pre-use i.e. using traditional feedback (n=281)	Post-use i.e. using video feedback (n=51)
To inform future pieces of work	47.0% (132)	43.1% (22)
To understand good/bad points in the work it related to/just followed instructions	20.6% (58)	15.7% (8)
To improve grades/exam technique/for revision	3.2% (9)	9.8% (5)
Have learnt from it in general/gained extra knowledge	22.4% (63)	21.6% (11)
Didn't use it	4.6% (13)	2.0 (1)
Other	2.1% (6)	7.8% (4)



**Table 5. Students' opinions about the feedback they had received prior to receiving video feedback via the ASSET resource (n=287 for each question). Answers for each question on a five-point scale: Always, Mostly, Sometimes, Rarely, Never.**

	<b>Most frequent (median) answer</b>
The feedback I receive makes clear what I have done well	Mostly (42.9%)
The feedback I receive makes clear what I have done less well	Mostly (39.4%)
The feedback I receive makes clear how I can improve in the future	Sometimes (33.4%)
The feedback I receive makes me think differently about how I work	Sometimes (36.2%)
The feedback I receive helps me work more effectively in later assignments	Mostly (38.0)

**Table 6. Advantages and disadvantages of the use of video in generic feedback provision as identified by staff and students after using videos in the ASSET resource. The n values refer to the number of staff/students who responded to an open question and their responses were grouped into categories.**

<b>Advantages</b>	
<b>Staff (n=8)</b>	<b>Students (n=105)</b>
Videos can be re-viewed (3)	Easy/clear to understand (34)
Like a face-to-face session (2)	Accessible/could watch anytime/anywhere (24)
Accessible (2)	Could be re-viewed (21)
Can use intonation/emphasis to highlight key points (2)	More extensive comments (13)
Speed (2)	Can emphasise key points (using intonation) (12)
Students took more notice than other forms of feedback (2)	Paid more attention to the feedback (11)
Relevant (1)	More personal (11)
Can use screencasts to SHOW students what to do (1)	Easy/straightforward (9)
Easy to communicate to large groups (1)	Can aid visualisation (8)
Has immediacy of a lecture (1)	Helpful/good instructions (7)
Can direct students to the video if they query (1)	Encourages more staff/student interaction (5)
	Removes problems of deciphering handwriting (5)
	Better than other forms of feedback (5)
	More direct (5)
	Other miscellaneous advantages (31)
<b>Disadvantages/challenges</b>	
<b>Staff (n=8)</b>	<b>Students (n=105)</b>
It took too long (5)	Feedback too generic (18)
Getting to grips with the technology (2)	De-personalises the feedback experience (13)
Making 'professional' looking videos (2)	Technical problems (13)
Difficulty getting students to watch the videos (1)	Slow to load videos/problems buffering (11)
Encouraging students to post their own videos (1)	Navigation of ASSET site (10)
Time limit on the video (1)	Can't ask questions (10)
Making sure the video covers all the issues (1)	Poor video/sound quality (10)
Making sure video isn't too brief (1)	Cannot identify any disadvantages (10)
Making sure video isn't too impressionistic (1)	Not accessible from the VLE/difficult to access (7)
Don't know how the students used it (1)	Have to re-watch whole video if missed a point (6)
Lack of VLE integration (1)	Takes too long to watch videos (6)
	Lacking information (6)

Need to have a computer & internet access (5)

Other miscellaneous disadvantages (34)

ACCEPTED MANUSCRIPT

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

### Research highlights

- Results from staff and student surveys highlighted problems with feedback provision
- Main issues were timeliness, quality, staff efficiency and student engagement
- The ASSET resource was developed to explore the use of video for feedback provision
- Video enabled the provision of rapid, accessible and engaging, generic feedback
- Most staff and students agreed that video enhanced their feedback experience