

IS VIDEO FEEDBACK IN HIGHER EDUCATION WORTH A BYTE?

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ABSTRACT

Feedback can be given in various situations, like after examinations, project work, and course completion. It is widely accepted that feedback is important for students' learning, and it can be used in various ways, such as, written, face-to-face, and with the assistance of video recordings. This study focuses on the use of video recorded feedback to gather knowledge on how video recorded feedback can enhance the students learning. Since feedback in the study was given *in* video recordings, an alternate way was introduced, which add further insights for teaching and learning at university levels. The results showed that 94% preferred video recorded feedback over written feedback and they, in general, preferred face to face feedback (59%). Although, follow-up questions showed that the students found the recorded option beneficial since they could review the video several times in order to see and hear exactly what was stated and what part of their work it related to. In conclusion, video feedback of student work was perceived to be beneficial and the students and the teacher positively accepted it.

Keywords: Feedback, higher education, teaching, video feedback.

1 INTRODUCTION

Recent assessment research focuses on the core of the teaching process and is closely related to Dewey's educational ideas, which focuses on the student's learning experiences. This includes thought and action, which are intertwined in meaningful activities. Teachers actively stimulate the individuals' learning and one such stimulation, important for student learning, is feedback [1][2]. The value of these findings has not been applied in and adapted to higher education, nor is it yet clear, if they are applicable. Although, there are many connections since individual learning is assessed in both levels. Each individual has his or her own conceptions and this also applies to one's performance in school and how assessment is done. A student may feel that he or she is doing their best at all times and that is why the student may find it difficult to notice their development. One perspective is that if the students could see their personal development, it might help them in their learning progress [3] and communication through conversation, where teachers and students discuss learning and development, is an important basis to put into words the content of the assessment. Students need to metacognitively understand what needs to be developed so that they can work on their continued development [4]. Since the teacher is essential for the student's development of metacognition [1][3], its continuity in the relationship between teacher and student is required. For this to work the school needs to build long-term relationships so education will lead to learning [1]. Learning processes including teacher-student interactions are not limited to physical interaction, however, it is common for schools to summarize student performance using grades and exams [2].

Feedback is essential to help the student to progress in their learning process and achieve their goals. Therefore, how the feedback is communicated is very important, since it is given in relation to ones' performance. This paper defines feedback as "information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding" [5][6]. Winne and Butler emphasize that the material must be understood for it to be used effectively: "Feedback is information with which a learner can confirm, add to, overwrite, tune, or restructure information in memory, whether that information is domain knowledge, metacognitive knowledge, beliefs about self and tasks, or cognitive tactics and strategies" [6]. Kulhavy describes feedback as

correcting the performance and giving recommendations for further improvement [7]. However, Bailey and Garner’s findings show it is not clear that written feedback is accepted as beneficial for students; teachers in higher education display varied perceptions of its value [8]. Teachers’ and students’ different perceptions are influenced by, for example, tradition or institutional requirements, which can affect what use students make of the feedback [8][9]. The notion of further improvement has been shown to produce positive effects on student achievement, motivation and commitment to the effort [10]. That is, formative feedback is not just about delivering information about student performance; it also needs to contain information on how the student can change the way they think or the way they act in order to achieve the learning outcomes. Effective feedback must answer three major questions, which pertain to feed-up, feed-back, and feed-forward. It works at four levels and for the type of feedback given it needs to target the appropriate level of the intended students (Figure 1).

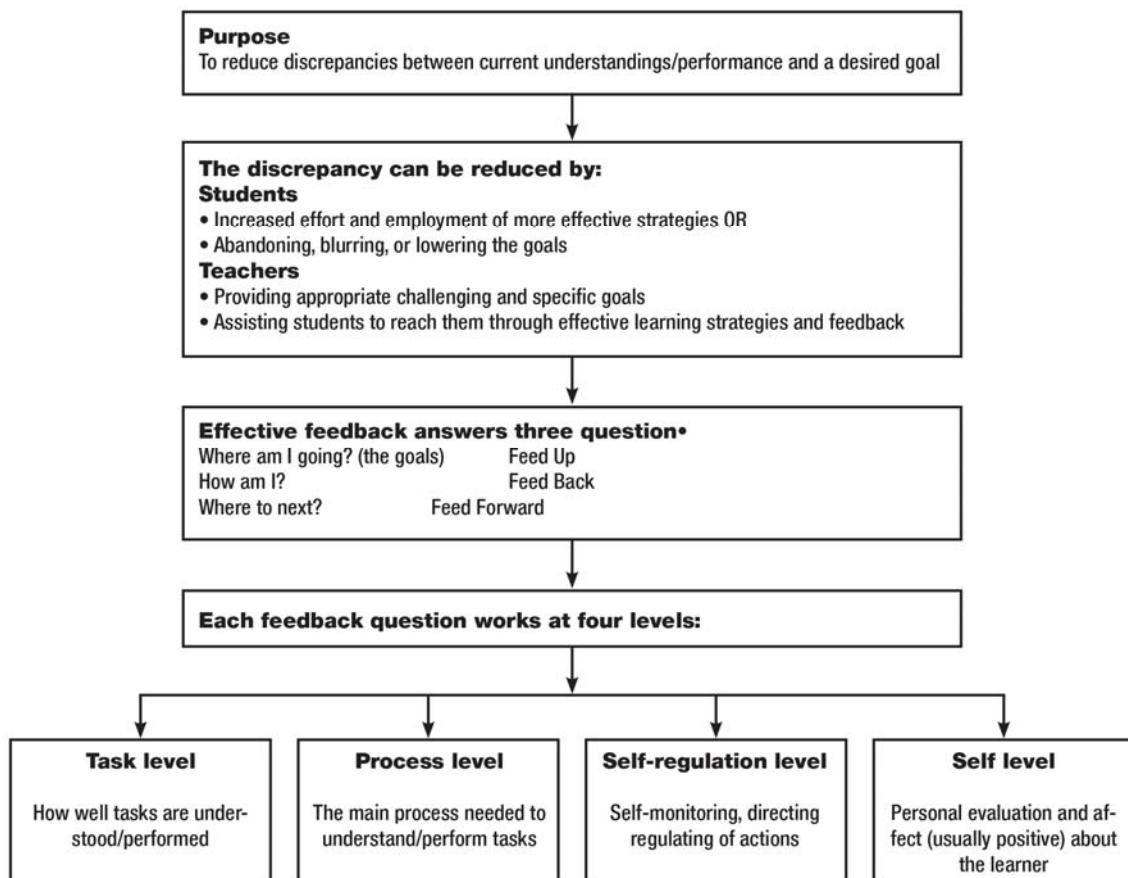


Figure 1. Model of feedback to enhance learning [5]

Feedback in the form of constructive criticism can be both positive and negative, and it describes the students’ knowledge at that specific point in time. While both positive and negative feedback can have an effect on learning, it is mainly high-performing students who respond well to negative feedback and low performing students respond better to positive feedback [11]. Forward-looking feedback helps the student in evolving to the better. Regardless, all feedback whether it's about feedback or feedforward, it is important that the information communicated to the students is objective and relevant. For feedback to function effectively in any learning process, it is necessary to both target the task to be conducted and to include information on how the task can be performed more efficiently [2]. A study by Soong, Chan, Cheers and Hu concerning the usefulness of videotaped lectures found that the main reason why students used the recorded lectures was to watch selected parts of the lectures they did not understand [12]. In this study, the possibilities to view and re-view feedback are central aspects, and these are limited to the feedback-questions “Where am I going?” and “How am I?” [5] (Figure 1). Video recorded feedback can be used, and have been, in other settings such as medical and sports education, where recordings act as an evaluation tool for students reviewing their own actions [13][14]. Peers can take part in a process to find cues for personal development and learning, which in fact enriches learning outcome in sports, as compared to non-peer reviewing [14]. These findings

show that peers are important in video recorded feedback, but research on specific settings in higher education including both assessment and video recorded feedback have not been found. Tuck [15] describes the required personal investment demanded by the teachers' giving feedback, and this might also be a key in video recorded feedback. As stated by Rutter [16] it is important not only to show a 'faceless' captured screen but also a picture of the teacher together with audio. This includes a video that provides expressions, gestures and a human voice since it influences learning in a positive manner by stimulating student's interest and communication; this is according to the social-cue hypothesis [16].

The aim of this study is to answer these three questions: can video feedback be used to give students better feedback on their work; is video recorded feedback beneficial for students in helping them understand their work; and how do students' experience feedback given through video in the review of their work?

2 METHOD

To fulfil the aim of the study was a university course chosen based upon several criteria: the course should contain several student projects of which teachers give feedback, the university students should have at least two years fulltime study experience, the course teacher should have experience with and be comfortable using all four types of feedback, and the teacher who gives feedback is to teach all parts of the course and give feedback on all project work. The course Graphic Design and Presentation Technique was chosen as the most appropriate course. Seventeen third-year Industrial Design Engineering programme students at the Luleå University of Technology were recruited to participate in the study and they were informed that their participation and results were to be held confidential.

Each student was given an assignment, in which they presented their work in a narrated PowerPoint recording. All the assignments were uploaded to the teacher's computer, where they were assessed and graded by the teacher. The software recorded the teacher's verbal feedback, the teachers screen showing the PowerPoint video at the same time, and an image of the teacher through a web camera, as in figure 2, as recommended by Rutter [16]. A movie clip with feedback, for each individual assignment, was sent to the subjects, together with the instruction to, first, watch the video with feedback and, thereafter, fill out a questionnaire with 11 questions.

The questionnaire consisted of seven scaled questions and four open questions, where the video feedback was compared to both verbal and written feedback. The students were instructed that their responses were confidential. The questionnaire was developed and shared with and the automated course evaluation system provided by the university. The data collected through questionnaires was analyzed quantitatively with respect to each of the included questions, and qualitatively by weighing every question in the questionnaire to each other in order to find confirmations in student responses to open-ended questions. This was done to find influences that may impact teaching and the teacher's role, statements referring to video recorded feedback was identified.



Figure 2. Example of one of the screen capture made in the study

3 RESULTS

The results in Table 1 show that they personally preferred video feedback to written feedback ($M = 3.7$, $SD = 0.5$) and that 94% ($N = 17$) thought that others would prefer video feedback to written feedback. They also responded that they found video feedback to be very beneficial ($M = 3.8$, $SD = 0.4$). In addition to that, all 17 students stated that they would like to be given video feedback for other assignments. The students' detailed responses supported these results in that they explained why they preferred video feedback to written feedback: video feedback gave them a better chance to understand the teacher, since oftentimes written feedback is not fully understood; it's easier to communicate emotions via video; and the feedback was shown to be more specific (detailed) in its content. They also explained that video feedback would be a good option for students with dyslexia.

When considering the option of verbal feedback as opposed to video feedback, the students stated that verbal (face to face) feedback was a more preferable solution (59%), although they stated that they themselves marginally preferred video feedback to verbal (face to face) feedback ($M = 2.6$, $SD = 0.9$), although not a significant difference. They stated that the main benefit to verbal (face to face) feedback was that they could immediately respond with questions to get more specifics and respond to criticism, of which is not immediately possible in both video and written feedback. Although, they did like the possibility of video feedback since they could save the feedback and reflect over it at a later time, especially for specific details, which are often quickly forgotten. In conclusion, video feedback was perceived to be beneficial as a new method for feedback and it was positively accepted by the students and teacher alike.

The teacher's response concerning video feedback vs. written feedback was that it was easier to express oneself and be more specific in pointing out details in the student's work. It took less time to record the video and orally communicate than write it, although the teachers stated that they planned what they would say beforehand. In summary, the teacher felt that they could give better feedback via video as opposed to written feedback. Concerning video feedback and verbal (face to face) feedback the teacher stated that it was easier and more time efficient to use video responses than to plan a meeting and meet the students face to face. It was also stated that it was easier to give a more correct feedback in a video instead of verbal format since the students' immediate reactions were not distracting.

Table 1. Results from the survey

Question	M	SD
Do you prefer video feedback to verbal feedback?	2.6	0.9
Do you prefer video feedback to written feedback?	3.7	0.5
Overall, how beneficial was the video feedback?	3.8	0.4
Do you prefer video feedback to verbal (face-to-face) feedback?	58.8%	
Do you prefer video feedback to written feedback?	94.1%	
Would you want video feedback on other assignments?	100%	

4 DISCUSSION

Since the overall goal of feedback is to stimulate learning [1] and contribute to continued development [4] it is essential to access feedback methods and compare the possibilities. The results showed that both verbal face-to-face and video feedback were preferred over written feedback since it allowed for more specific formative feedback [10] which not only confirmed earlier findings [8] that showed written feedback as being inconclusive in assisting students in their development. The students wanted more information in the communicated feedback, they wanted to read the facial expressions and they wanted to get more specifics in the feedback; i.e. what I did incorrectly, how to improve it and what is required of me in further [5]. If a student can verbally respond to the teacher's feedback in a conversation this would be the most fitting method, that is, if the conversation is recorded. Interaction is a helping factor to student development and video feedback lacks the characteristic of immediate interaction, although it can occur in a delayed rate via e-mail, later conversation, etc. Another advantage of video feedback was the fact that it could be saved and reviewed at a late time when the student was more receptive to other nuances, thoughts or comments included in the information.

Video feedback, although not rated as more helpful than verbal face-to-face feedback it showed greatest potential for improvement in fulfilling the students needs to track their development since it was much easier to follow both thoughts and actions [2] in the video feedback. The feedback given for improvement was recorded and could easily be accessed at any time [12]. As the students responded, the biggest advantage of video feedback is the ability to archive the feedback in a way that is far better than any verbal or written feedback could provide. These finds do agree with earlier literature which state that the key to video feedback is the required personal investment demanded by the teachers' giving feedback [15] and this includes their usage of the three types of feedback: where am I going, how am I, and where to next [5].

An essential part of formative feedback concerns how the student can change the way they think or the way they act in order to achieve the learning outcomes [10] and, presently, written feedback is the most common form of feedback used in higher education. Although, our results show that written feedback was rated as being of lower importance than verbal face-to-face and video feedback, this may show that written feedback does not fulfil the fundamental requirements of feedback. Although, students wanted more information, more detailed information, more specific details that they could correlate to a specific point in their work, as well as, fulfilment of the three levels of feedback, this need does not seem to be met in present written feedback, possibly due to a lack of time for giving feedback. If this is the case how did the feedback differ in the two verbal cases? In general the teacher stated that the time issue was roughly equivalent. Although, in the future the video feedback could become more efficient than the others. As the teacher stated the use of the video recorded feedback did help allocate time better and, over and above all, it helped to give a more correct feedback since the students' reactions were not distracting.

Since the receiver of feedback via video does not have the opportunity to ask questions, it is important that the feedback is clear and precise. Timing of feedback is also important, some delay is essential but depending upon the difficulty of the task and the students need to process their thoughts. Easy tasks do not require processing and thus delaying feedback is unnecessary [5]. In relation to the school year and course schedule, feedback needs to be given before the next session of courses have started so that the

students are not too focused upon their coursework to take time to learn from the feedback. Feedback too early and/or too late is not effective since the students are no longer open for the feedback.

5 CONCLUSIONS

The conclusions of this study were positive for the use of video feedback and support further study of video feedback in the higher education since it is an unstudied subject. Firstly, the results showed that video feedback is a viable alternative to verbal face-to-face feedback and it did have several advantages, such as, the feedback could easily be archived and it allowed for a higher level of detail in the feedback. Secondly, video recorded feedback benefited the students in their development process by allowing for a platform there they could compare their development to specific area of their work. Finally, the student's experienced video feedback as positive and welcomed it although they thought that others would prefer face-to-face feedback. Even though they themselves showed that the video feedback they received and verbal feedback they receive were equally acceptable they wanted to receive video feedback in the future.

An enhanced study should be carried out before any concrete conclusions can be made. In future studies it may be interesting to also examine whether students also learn more by getting feedback via video instead of the more conventional methods. So the design of the study needs some improvements to get more viable data.

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