

# **Watch yourself!**

## **Giving feedback on recorded presentations in a Virtual learning Environment**

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### **Abstract**

The development of effective oral communication skills is an important educational goal for future technical engineers. Learning those skills involves instruction in rhetoric, and evaluating actual presentational behaviour. Supplying feedback by looking at video recordings is a path often followed in oral presentation courses: short fragments are shown in class to point out strengths and weaknesses of the presentation of the student. The fragments illustrate more concretely the comments that are made by the other observers (peers; teachers). Till recently the students got their presentation delivered on VHS-tape. They took the video-registration home with the task to re-evaluate the performance and to formulate specific behavioural goals for their next performance. The contribution of the fellow students was limited. The evaluation papers of the students – after reviewing the VHS-tape – were often rather of a general and defensive nature. The introduction of a virtual learning environment (i.e. BlackBoard) offered new possibilities. A program was developed in which students first learned to evaluate the performances of their peers. Budget was important: the analogue video equipment could not easily be discarded. The first impressions show that learning to carefully comment on performances by one's peers results in a much richer evaluation of the student's own presentation.

**Keywords:** oral communication; feedback; video; virtual learning environment

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### Abstract

The development of effective oral communication skills is an important educational goal for future technical engineers. Learning those skills involves instruction in rhetoric, and evaluating actual presentational behaviour. Supplying feedback by looking at video recordings is a path often followed in oral presentation courses: short fragments are shown in class to point out strengths and weaknesses of the presentation of the student. The fragments illustrate more concretely the comments that are made by the other observers (peers; teachers). Till recently the students got their presentation delivered on VHS-tape. They took the video-registration home with the task to re-evaluate the performance and to formulate specific behavioural goals for their next performance. The contribution of the fellow students was limited. The evaluation papers of the students – after reviewing the VHS-tape – were often rather of a general and defensive nature. The introduction of a virtual learning environment (i.e. BlackBoard) offered new possibilities. A program was developed in which students first learned to evaluate the performances of their peers. Budget was important: the analogue video equipment could not easily be discarded. The first impressions show that learning to carefully comment on performances by one's peers results in a much richer evaluation of the student's own presentation.

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## 1 INTRODUCTION

Students who want to improve their oral presentation skills can benefit by viewing their own presentation on video [1]. Brown, Bull & Pendlebury [2] even stated that video feedback is one of the most effective methods of improving oral communication skills. It is assumed that viewing a video of one's performance will stimulate recall of the performance, which in turn will produce reflection on that action, which in turn will lead to learning [3]. If the technology is available, students can benefit from recording their speeches and reviewing them after class. Thus, students are placed in the role of listener to their own speaking; they can then, for instance, see how important it is for their speaking to be adapted to the needs of listeners [4]. When students watch their own presentations on video, the learning process becomes more reflective, which involves the students more [5], as the method encourages them to determine which elements of their speaking they want to improve. This approach is promising and seems to reduce students' speech anxiety [6]. In recent years, VHS recordings have been replaced by digital ones and teachers have explored methods to give feedback on presentations using Virtual Learning Environments (VLE's) like Blackboard and Moodle and software programs.

However, although most teachers and scientists concur that feedback through video is a useful tool, in practice there are a lot of obstacles to be overcome. It is often only in the last (discussion) part of articles, which explore new possibilities, that – after cheering the newly developed course or methods – the authors mention problems that have to be overcome before the new plans can be broadly adopted (cost of cameras [7]; download time & site access problems [8]; organizational costs [9]; computer storage & video file processing/compressing time [10]).

The purpose of this paper is to present an efficient way of enhancing feedback and self-evaluation skills for students in oral presentations by using the possibilities of VLE's within the constraints of having to use existing (analogue) equipment and limited technical capabilities of teaching staff. We will explain why we opted for a

simple, relatively low-tech solution. First we will focus on the need for more detailed feedback in the light of some problems we noted when students try to evaluate their own presentations. Then we will explore some interesting developments in using video and VLE's. In conclusion we will describe the way in which we incorporated digitised recordings of presentations into our classes on oral presentation, and illustrate how the feedback that our students have given on their own and other students' presentations has improved since their presentations were made available on the VLE.

## 2 PROBLEMS WITH FEEDBACK

Typically, during courses of oral presentation, students will receive feedback from their teacher and fellow students after their presentation. In general, the feedback after the presentation is considered as useful, but there are many reasons why this form of feedback is less effective than desired.

Firstly, presenters find it difficult to concentrate after just having given a presentation and when they are still unwinding from this. Much of the feedback they are given is not picked up. Secondly, evaluators usually do not take notes, which makes it difficult to specify what their comments are based on and which usually leads to a discussion in which the presenter feels the need to defend himself. Finally, students are not always geared to give constructive feedback: they find it difficult to identify the underlying presentation techniques and focus on conspicuous details such as fillers and fidgeting behaviour instead. This is the so-called halo-effect in which minor details overshadow the observation of more essential behaviour.

In conclusion this method of feedback is usually strongly dependent on the didactic skills of the trainer, the attitude of the presenter and the feedback skills of the audience.

Obviously, giving and receiving weak feedback does not help the learning process. We noticed in our work that most of the time students are capable of mentioning strong and weak points in their own and their classmates' presentations, but find it difficult to be specific in their feedback, which rather reduces the learning effect. In the table below examples of feedback given are presented.

Actual feedback	What happened
[too general] Room control was good	Speaker cleaned the blackboard before speaking, but left some furniture in place
[specific] You had misspellings on your slides	Only one slide had misspellings
[halo effect] You look at screen too much	In the beginning she was looking to the screen; when she was speaking about her working experience she really made contact with the audience; the last sentences, however, were spoken in the direction of the projection screen
[vague] Use of PowerPoint could be better	Every time the speaker showed a new slide on the screen he turned his back on the audience and talked to the screen. In the last three minutes of the presentation he showed twelve slides. When he showed complicated slides he used a clear structure to explain how they supported his argument.

TABLE 1: examples of feedback

Watching a video recording, rewinding it and watching again can make observations and feedback more specific and concrete. Also, developing a keener eye by watching - and re-watching- recorded presentations helps students to assess their own and other people's behaviour more objectively. However, using video recordings is not a solution in itself and it also brings new problems.

To begin with, watching video recordings and analyzing them is time-consuming. It is not feasible within the restricted time period of a lecture for all students to give their presentations and to discuss these. As a result students are usually asked to watch the video at home.

A second problem is that most students simply do not own a video recorder anymore. VHS is quickly becoming obsolete so the university has to provide places to watch the recordings. Apart from that it is our experience that students do not seem to make time to watch the presentations thoroughly and their evaluation remains superficial because of this.

A last, practical, problem is that other students cannot give feedback on the recording as there is only one tape. Grievson en Lowe [11] describe a setup at their university where a VHS-master tape with the presentation of a student is copied and redistributed by a member of the technical staff to a student team for analysis. They admit that such assistance is a necessity and "cannot be dismissed in a course which is already quite intensive in its demands on staff time" [p53 11].

Modern technology has made it possible to make digital recordings of the presentations, which opens new doors to us: not only can these recordings be copied quickly and easily so that multiple copies of the recordings can be made available, but more importantly (and more privacy sensitive), they can be made available in a VLE. This makes it possible for all the students in a group to watch and give feedback on the presentation, for the speaker to collect this feedback and to incorporate it in his or her next performance, and for the teacher to monitor the process and comment on the quality of the feedback at a mouse click.

Most universities now use a VLE for lectures, class notes and group work (BlackBoard, Moodle etc.). If the recordings are made available via the VLE, students should be able to support their feedback by referring to these recordings.

### 3 EXPERIENCES WITH VIDEO FEEDBACK

Providing feedback by using a combination of video and computer (intra)network creates new opportunities and causes (again) new problems. We will describe two video-reflection experiments in the Netherlands (one conducted by the University of Amsterdam and one by Leiden University) and a related project in Washington (DC). All three experiments use a video reflection or editing program, which combines the video with the feedback. There are several ways to present the feedback, for instance by letting the feedback run alongside the video in a separate window or by writing the comments down in a document, using hyperlinks to fragments of the video to illustrate the feedback.

#### 3.1 Video-reflection project University of Amsterdam

In the Netherlands, the University of Amsterdam are breaking ground with a project on digital video-reflection, which is part of the teacher-training programme: 'Instituut voor de Lerarenopleiding' (ILO) [12]. Students record each other's presentations. By using a commercial video editing program (*Pinnacle Studio 8*), the presenters select fragments of the recordings on which they want to receive feedback and fill in a form in which they motivate why they have chosen the specific scenes. The video and the form are placed on the local intranet with an invitation to the coach and the other students of the course to give feedback. This means that the invited feedback givers do not get to see the whole performance and are not distracted by seeing other presentational behaviour. When this procedure is followed the presenter has full control on what he or she wants the others to see and to comment on. The video fragments were also used as authentic learning material to demonstrate the various ways a beginner can make mistakes and how he or she copes with them.

The final report of the Amsterdam project shows that "the feedback received can be quite diverse and even contradictory" [p2 12]. The evaluation also shows that working with the video editing program was cumbersome because of the technical problems students were faced with. More than half the students who were interviewed claimed that "the project took too much time with respect to the output" [p4 12]. Although the program is still in the syllabus of the department, it seems that no students enrol in it anymore.

#### 3.2 On-line video cutter Leiden University

Another interesting initiative is the use of a virtual video cutter on the internet by Leiden University. This cutter was made available by SURF, the coordinating ICT organization for higher education in the Netherlands [13]. The program allows the user to create clips from multimedia-files and supports all kinds of formats (MOV, MPG, WMV, RM). The principle is simple: the program uses a reference (link) to the multi-media file elsewhere on the net and allows the user to indicate the beginning and the end of a video-fragment within a multi-media file. The program generates an html-code that refers to this clip after the user has entered these marks (see figure 1). The code is usable in a web page or any other file that takes hyperlinks such as Word and PowerPoint files.

Leiden University uses the Virtual Cutter in their oral presentation courses. Students are recorded on camera and the recording is subsequently converted to a streamed digital file and placed on the university video streaming server. The students are presented an internet-link to the recording on the server and are instructed to write an evaluation of their own presentation which should be supported by at least three fragments of the presentation.

Examples are (the underscored words represent hyperlinks in the Word-file):

- "The strongest point in my presentation was the formulation of my purpose statement (see [Fragment 1](#)). In these sentences I explain very clearly why I choose X as subject for my presentation." [Eva]
- "A point to remedy: I do not want [to dwell to long](#) on some points. It is because I am so enthusiastic and I want to speak for hours about my home-town. The consequence is that the main thread of my presentation gets blurred". [Renee]

The course has not yet been evaluated fully, but the teachers state that student reports have improved, although the students regularly made mistakes when inserting html-codes in the evaluation reports. A disadvantage reported so far is that it is necessary that the multi-media files are placed on a streaming server, which not only has to be available, but which also takes time and computer-literate teachers.



FIGURE 1: the Virtual Cutter: marking a clip [13]

### 3.3 Feedback by annotation

Over the last decades several programs have been developed to add comments to video fragments (for an overview [14]). Unfortunately, most of these are quite complex and not practical in an educational context. A free program for instance is ANVIL [15] which, among other things, makes it possible to encode nonverbal behaviour (e.g. gestures) on so-called tracks and show their occurrence in a temporal alignment. The program interface shows audio tracks, the video frames and much more to accommodate researchers who have to precisely label the behaviour they are analyzing. However, this program, like others, offers too many complex and advanced features to be useful in a regular classroom. Microsoft program developers Grudin & Barger [16] sketch the problems they had in designing a usable annotation program: “We were confident that our lecture annotation system would be intuitive and useful enough to be used in myriad lecture courses with instructors and students willing to make minor adjustments to their practices as needed. The people we encountered were not willing to.” [p12 16] In their very illustrative article they suggest that a “generic multimedia annotation system for asynchronous distance education may not be feasible” [p12 16]. In other words: no matter how easy to use a program is, teachers and students still shy away from it.

An interesting annotation program to provide presenters with feedback is *Language Evaluator*, which was developed at the Department of Japanese at Washington University [17; 18]. This program is intended to help language teachers receive feedback not only on their grammar and pronunciation, but also on their body language (especially bowing, which is quite important in some cultural contexts). The program interface (see figure 2) shows the recording and the possibility to place annotations (feedback) next to it. Unfortunately, the program has some technical drawbacks: the teachers needed a disproportional amount of time to compress the video fragments (they even resorted to processing the videos at night), and storing the video files (only QuickTime and standard mpeg are supported) proved a considerable challenge. If these two challenges are met, *Language Evaluator* might become a viable option.

These examples show that, even though it is technically possible to obtain feedback on a videotaped presentation via a computer network with the use of a video editing program or an annotation program, there are still many practical difficulties. On the one hand, the teachers involved experience problems compressing and storing the

video files, and on the other hand the students have to invest too much time and effort in learning to work with the editing programs. In the next section we will present the way we have tried to deal with those drawbacks.

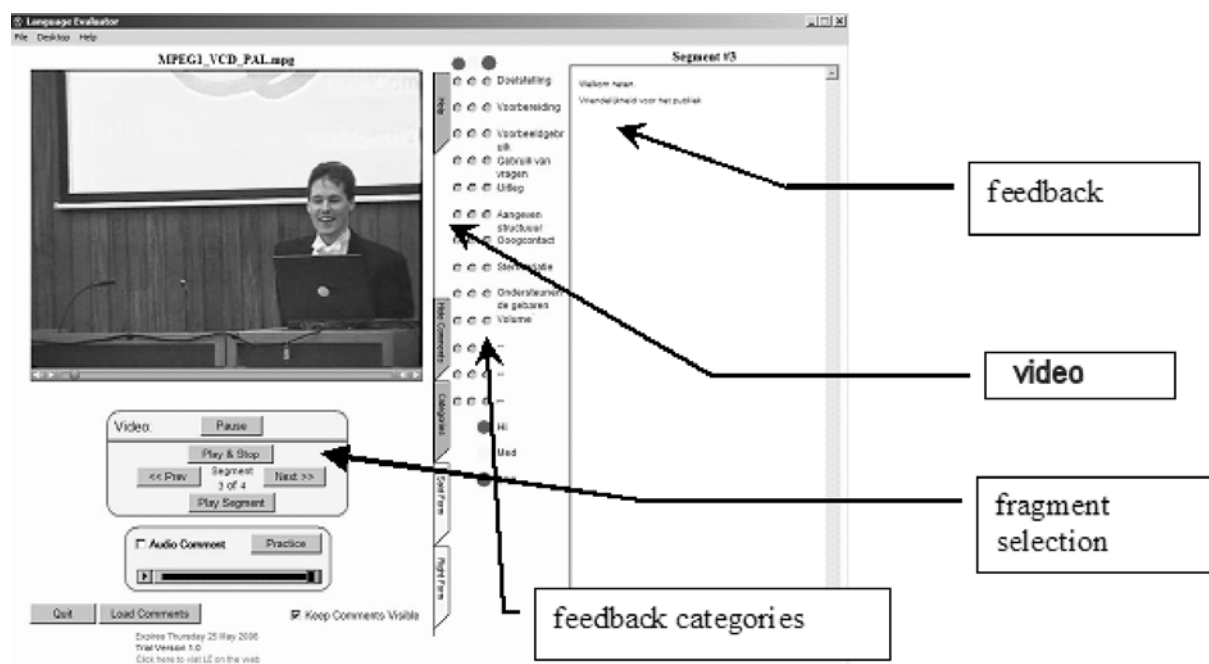


FIGURE 2: Language evaluator 1.01 [<http://tjp.washington.edu/main/le>]

#### 4 IMPROVING FEEDBACK AND SELF-EVALUATION: A COMBINATION OF OLD EQUIPMENT AND NEW WAYS

Giving feedback supported by video recording is an effective means to teach students to perform better in oral presentation. Not only is that clear from literature, as was mentioned at the beginning of this article, but it is also our own experience in using the VHS-recordings in our classes. If video recordings could be accessed from the network then more students could analyse the recordings and the observational quality of the feedback would improve. Sections 2 and 3 of this article have shown that new ways of providing feedback invariably bring along new problems. Although the didactical basis seems sound, practical problems easily disrupt the teaching routine. A successful video–feedback system should at least take the next technical aspects into account:

*Processing time:* During lectures, there is very limited time to process the recordings of presentations. There is usually no time to “finalize” DVDs or to compress recordings for playback, as this would disrupt classroom proceedings.

*Interface:* teachers are not media technologists and during classes they are busy teaching. The program interface will have to be as simple as possible i.e. no more complicated than a cd-player.

*File format:* all recordings should be saved in a format that is supported by all commonly used media players. The saved file should be small enough to be easily downloaded in a VLE.

*Annotation process:* students are expected to view the recording of their own or their classmates’ presentation at home and to insert comments and feedback on the speaker’s presentation skills. In case of peer feedback, the recording including the comments and feedback are then viewed and read by the speaker. This should be a simple procedure and learning to use the annotation program may not become a goal in itself within the course.

##### 4.1 Old equipment

Teaching is juggling constraints. In an ideal world there would be enough money, knowledge and manpower to realize all the didactical goals a teacher can have. The world, however, is not ideal: money is scarce; the technical know-how of the teaching staff is limited and staff is under pressure. By way of a small grant from the university an investigation was carried out to explore the possibilities of using the existing video-sets and still making the connection to the network. A solution was found in the utilization of simple digital video converting devices. Before we present that solution, though, we will first describe the old situation.

Over the last 40 years oral presentation skills training at Delft University of Technology (TU Delft) has been developed into a course of a rather fixed format of seven sessions for students of all faculties, ranging from Mechanical Engineering to Applied Physics and Aerospace Engineering. A small number of staff teach a large number of students (approx. 1800 per year) in small (10-students) groups. In the past all presentations (at least three per student) were recorded on VHS-tapes and students received feedback on their presentation immediately after the presentation from both teacher and classmates. In addition students were asked to watch the tape and write an evaluation of their presentation at home, using the feedback they had received in class. In the late nineties we furnished and equipped the multi-media rooms with new cameras, video recorders and audio equipment. These are all analogue machines. Although to commercial standards the multi-media sets are written off financially, they are in good working order and management does not have their priority set on renewing them.

Figure 3 shows the difference between the old situation and the new. The diagram shows the relatively small difference in the situation: the addition of the analogue-digital converter. The cost of a simple a/d-converter varies from €25 (\$38) to €15 (\$327). Through a firewire connection the video-stream of the analogue equipment is fed directly into a PC. Most electronic activities are performed in the converting device so the PC itself does not need to be very high standard.

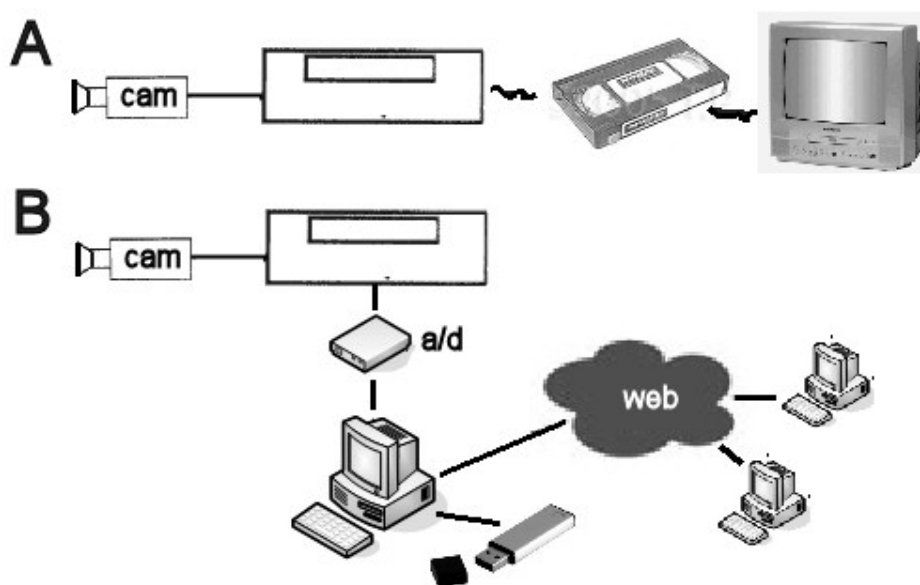


FIGURE 3: A (old) – B (new) differences; a/d: analogue-digital converter

The video-stream is captured by the free software program Microsoft MovieMaker. The interface of the program is straightforward and usable by even the least technically inclined of our colleagues. The resulting video files are relatively small (5 Mb per minute; 512 kbps) and are easily transported through the network or on usb-stick/mp3-player. Making and distributing the recording does not take more time than in the earlier set-up.

#### 4.2 New ways

The slightly changed set-up allowed for a major difference and improvement of the use of feedback within the oral presentation course. Where once only one (VHS) recording of the presentation was available, now several students could find the recorded presentation on the VLE to analyze the presentation. The students were asked to give precise and concrete feedback, referring to exact time indications in the recording. This method meant that the use of software was kept to a minimum.

The recordings could be viewed using the standard Windows media player. No special annotation program was distributed. The students were asked to register their observations and advice, using their standard word processing program. The resulting file was sent to the other student and to the teacher. Since all students have access to the VLE (in our case Blackboard and a broadband connection, either at home or at the university, there are no technical limitations to the use of the VLE. Table 2 shows three of the assignments in the new didactical set-up. The examples in the third column show improved feedback – in comparison with the vague, sometimes too general or too specific feedback mentioned in table 1.

	Speech task	Feedback	Examples
1	Improvising 1-2 minutes ['elevator pitch'] *	Feedback notes (what I liked / what you could improve) by peers written directly after presentation; summarized (and checked on video) by speaker	Not everyone agreed on the way I used gestures: some were positive, other negative, saying: "you were just waving your hands all the time".
2	Four-minute speech*	Extensive written feedback (based on observation categories) by peer (home assignment); accompanied by advice; sent to speaker and teacher by e-mail	Your transitions from the introduction to the body of your presentation (0.30) and from this to the conclusion (3.25) were too sudden. Try to ask a question or make a comment to make the transition smoother, like you did in the transitions in your slides at 1.23.
3	Eight-minute speech*	Extensive written evaluation by speaker (comparing former speech with current one; based on observation categories)	Right from the introduction I have better eye-contact with my audience, and I keep this up during the rest of the presentation. Especially at the beginning of the conclusion I make good eye-contact (8.23-8.30)

- all video recordings are placed on a central server and accessible – only by class-members - through the internet (BlackBoard)

TABLE 2: feedback assignments

## 5 CONCLUSION

Giving and receiving feedback is an important tool in education and giving feedback on recorded presentations considerably improves the possibilities to focus the feedback on a speaker's behaviour. When an annotated video recording is used, students receive and give more concrete and objective feedback which in turn will improve their presentation techniques. A setup that makes recordings of presentations available to the entire group clearly has added value: the speaker gets more - and more specific - feedback and the other students develop a keener eye.

At present, the existing annotation programs provide too many problems to really enhance the quality of the feedback. They are cumbersome to use and ask too much time or specific (technical) knowledge of the user. In our teaching we have converted the old analogue recordings into digital ones so that they could be made available to the entire group on our VLE. We asked students to write comments in a word processing program, using time indications to refer to specific parts in the recording of the presentation.

Our findings are that students give more concrete feedback to each other and that students evaluate themselves more accurately. When students receive specifically referenced feedback from others, they tend to be less defensive, which makes the learning process much more effective.

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