

## Chapter 6

### How Technology can Enhance Learning through Assessment and Reflection

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#### Assessment for learning through reflection

Gibbs (2006: 23) states that ‘assessment frames learning’ and more importantly that ‘it has more impact on learning than does teaching’. If we accept this assertion to be true, there is an argument for ensuring that assessment is integrated into the learning process to guarantee that it does in fact contribute to student learning. However, the relationship between assessment and learning is often problematic, given that ‘assessment is about several things at once’ (Ramsden 2003: 177), or what Boud (2000: 160) refers to as ‘double duty’. Among other things, assessment is about grading and reporting students’ achievements and about supporting students in their learning. Furthermore, if assessment focuses on grades, attention shifts away from what students need to improve (Sadler 1989) and it tends to have little impact on learning. The challenge for teachers then is to shift the balance towards learning even when grades are involved. This chapter illustrates how assessment for learning has been implemented in two modules taught at a university in Ireland, an undergraduate module where the assessment described does not carry a grade and a graduate module in which self-assessment and reflection are graded as part of a microteaching task completed by the students. We understand reflection as an activity carried out in order to learn from experiences (Moon 2004). Schön’s (1983) concept of *reflection-on-action* is applied to this study referring to students’ thinking about their own performance after a learning task has been completed. As Moon (2004) states, learning is an outcome of reflection. Furthermore, she claims that reflection is also associated with the process of learning, more specifically in generating ‘new and meaningful ideas (knowledge and understanding)’ (Moon 2004: 85).

Birenbaum (1996) places learners at the centre of the assessment process when she describes the attributes of a new assessment culture, which include students’ active participation in the process of assessment, in the development of assessment criteria and in documenting their work through reflections. Attempts to engage students in the process of assessment mean that learning is placed at the centre of assessment

(Keppell and Carless 2006). Joughin (2005) claims that assessment is learning-oriented to the extent that the judgement of students' work entails supporting students' learning processes. Promoting learning along with measuring students' achievements are the focus of a learning-oriented approach to assessment where the learning function of assessment is emphasized. The three components of a learning-oriented approach to assessment described by Carless et al (2006) are as follows:

- the use of assessment tasks that encourage appropriate learning processes;
- the involvement of students in the process of assessing their work, including of assessment criteria;
- the effective use of feedback and feed-forward.

Then, we can argue that the involvement of students in the assessment process is essential for contributing to student learning. It has been argued that involving students in self-evaluation of their learning promotes self-directed learning and contributes to raise levels of awareness – defining their weaknesses and strengths – that can be used as part of the learning process (Nicol and Macfarlane-Dick 2006), resulting in deeper learning (McDowell et al 2011). The involvement of students in the process of assessment can be done in a variety of ways (see for example Falchikov 2005) but, in order to benefit from the experience, Sadler (2009) adds that students need to develop an understanding about what constitutes quality in order to be equipped to assess their work. The present case study takes the three components of the above learning-oriented framework to show how assessment frames learning. In this chapter, we will focus on reflection and dialogue with the teacher through self and peer assessment, to demonstrate how two types of tasks, namely oral presentations and microteaching, are used to assess student work and at the same time contribute positively to their learning. The specific technology used in the classroom was video recordings of the two tasks. In isolating these specific tasks, it is believed that, as well as contributing to student learning, the process of assessment and reflection will lead to self-directed learning in the future, not only in the classroom but also in real-world situations. The study presented in this chapter is based on my own reflections as a teacher having used video recordings in the classroom, as well as on data gathered from the students who took the two modules in the academic year 2013-14.

### **Using video recordings in learning situations**

Video recordings have been used in many fields associated with performance as a way of studying oneself and others (Hamilton 2012) in order to learn from the experience and improve it. Examples of video being used to improve performance include the coaching and performances by athletes (Liebermann et al 2002), the training of student-teachers to develop their practice (Kpanja 2001) or in nursing (Caldwell and Atwall 2005), to name a few. However, Yakura (2009) maintains that video recording is not a common method used for classroom feedback, despite the fact that it provides a visual form of feedback on performance that has the ability to direct and improve the learning process, and that it is a relatively cheap technology to be used.

Like any other technology, video recording offers advantages, as well as limitations, that need to be considered when introducing it in the classroom. The benefits and the drawbacks of using video recordings have been documented through the extensive literature on the topic and those most relevant to the current chapter are discussed below. The main advantages of video recordings for learning from classroom performances or presentations include the possibility of having multiple viewings as well as the opportunities to pause, rewind and fast-forward (Zhang, Lundeberg and Eberhardt 2010). These features facilitate viewers in looking for patterns that can be lost when relying on memory of particular performances or events (Hamilton 2012), thus providing compelling evidence through ‘seeing what you normally don’t see’ (Zhang, Lundeberg and Eberhardt 2010: 60). Using terms coined by Schön (1983), video recordings take *reflection-in-action*, namely what goes on in the classroom, with the difficulty in remembering exactly what happened in the classroom if we rely on one’s memory, to a deeper *reflection-on-action* which can be enhanced when viewing and reflecting about what went on in the classroom. Hamilton (2012) goes further in stating that video recordings are ideal to provide multiple perspectives on the performance (i.e. from the author’s perspective, the teacher, classmates), and Yakura (2009: 178) adds that an additional stage of ‘videotape discussion and analysis’ is essential to contribute to the feedback loop which can be addressed with participants from the above when discussing the video recording.

As much as the advantages of using video recording may be convincing in justifying the use of this technology to facilitate student learning, there are several

matters to consider, mainly drawbacks, so that this technology can be used effectively. The main issue to consider is the fact that there may be resistance by students to be recorded and watch themselves on video, accompanied by anxiety (Yakura, 2009). A process of building trust between the students and the teacher needs to be part of the pedagogical planning so that feelings of anxiety can be overcome or minimized by the time video recordings are used. Lessening the anxiety that some students may experience prior to being video-recorded can be achieved by ensuring that the video recordings will be privately watched by the student, or group of students, and their teacher. More importantly, to ensure that the video recording has a positive effect on learning, it is necessary to develop what Yakura (2009: 177) calls ‘visual intelligence’ or the ability to analyse video. This, in turn, will contribute to the development of the students’ metacognitive skills that are necessary to understand how a task is performed (Imel 2002).

Although there are plenty of studies that have used video recordings in teacher development from pre-service onwards, relatively little work has been undertaken in researching video recordings with university students. Having considered the relevant literature on assessment for learning through reflection with the support of video recording technology, the main research question that this study seeks to investigate is the extent to which video recordings contribute to enhancing student learning through assessment and reflection.

### **Context for the study**

Two modules taught at a university in Ireland were chosen for this study. The first module is taught to undergraduate students of Spanish and the second module is part of a graduate programme in Second Language Studies. A brief description of the rationale explaining why and how the video-recording tasks were introduced in the two modules is presented next.

#### **Assessment of oral presentations done in groups**

Level 2 students of Spanish (undergraduates generally take modules at Level 1, Level 2 and Level 3) who take a business language module do an oral group presentation at the end of the semester to showcase to their classmates and to the teacher the business project they had developed during the semester. This oral presentation was video-recorded as evidence for the External Examiner or in cases of students appealing their grade. This is the first oral presentation the students will have to deliver in Spanish

and they face the usual challenges associated with having to use the L2 and with using the appropriate oral skills to convey their message to an audience.

Having taught the module for a number of years, I asked myself how to make the oral presentation a learning experience for the students. Although students had been presented with guidelines on how to produce a good oral presentation, one of the questions arising from the presentations was that students made mistakes in a number of areas including the skills required to do a good presentation, the coordination of group work and linguistic aspects associated with lexical and grammatical accuracy. It was obvious that the assessment was not contributing to student learning. In an attempt to address that issue, in the academic year 2012-13, a five-minute oral presentation on one aspect of the curriculum was incorporated into the tasks to be carried out earlier in the semester. This short presentation is video-recorded and a copy is given to the students. Students and teacher agree a set of criteria which are used to assess the presentations. Importantly, it does not contribute to the final grade of the module.

The aim is to afford students a hands-on assessment of their oral presentations, to train them on how to assess oral work presented in groups. Once the students have watched the video recording of their presentation and reflected on it, the teacher meets each group to talk over their presentations. The aim of the exercise is to reflect on how to improve the final group presentation at the end of the semester.

**Microteaching: delivery of a language lesson**

Students taking a Level 4 module on Second Language Teaching and Learning have to deliver a language class to their classmates applying the theoretical and methodological aspects they have studied during the semester, including lesson planning. Examples of the languages taught include Chinese, Portuguese, Arabic or German. When the module was first introduced, I took written notes while observing the delivery of the lesson. It soon became apparent during the feedback session with the students that many important issues were difficult to illustrate and some details had been forgotten. The limitations I encountered while giving feedback based on my notes and memory from the students' delivery made me consider the idea of video recording the lesson. However, before that could take place I had to ensure that students were comfortable with the video recording and work on building trust between the students and myself so that the benefits of video recording the lessons

could be justified. The video recording of the delivery of a language lesson started in 2009.

The microteaching class is video-recorded and a copy of the video is given to the student who has delivered the lesson. An initial reflection takes place immediately after the delivery of the lesson. This is followed by further reflection after watching the video and the third stage of the process is a meeting between the teacher and the student, within one week of the delivery of the lesson, to discuss the aspects of the lesson that had arisen after the student and the teacher had watched the video. Although students are provided with a number of questions to consider during their reflection, they are free to focus on any aspect that may not be included in the reflective guide. The reflection exercise together with the lesson planning and its delivery are graded.

### **Methodology**

An action research approach, which is a method of introducing and evaluating new ideas to influence or change practices (Robson 2002), was adopted. The study addressed three aspects of student learning:

- a) The extent to which video recordings contribute to the alignment of assessment and learning.
- b) If using video recordings facilitates student reflection and their acting upon the feedback received through dialogue with the teacher.
- c) Identifying any issue that may hinder student learning when video recordings are used.

When the video recording was first introduced, only me, the teacher, reflected on its impact by analysing what worked and the difficulties encountered at different stages – before, during and after the implementation of the tasks – in order to improve practice with the next cohort of students. It could be argued that although the views of the teacher are a valuable contribution to the action research approach, when the students' perspective on the use of video recording is considered, it is believed that the findings make for a stronger case to consider implementation with future cohorts of students.

The case studies undertaken for this research correspond to the two modules taught during the academic year 2013-14. Data from the students were obtained from two sources at the end of the academic year 2013-14. Firstly, a short questionnaire

was sent to students to seek their views. Students were informed about the purpose of the study and that participation was voluntary. Ethical guidelines regarding anonymity of the participants and the use of data were explained to the students when seeking their participation in the study (Bell 2005). The questionnaire was sent electronically to the students who have completed the two modules during the year. The questionnaire had three open-ended questions:

1. In which ways do you think watching the video recording of your oral presentation/ lesson delivery contributed positively to your learning?
2. Did you find any negative experiences in being video-recorded?
3. Any other comments you would like to add about the experience of watching video recordings to improve your learning/teaching practice.

Secondly, data from students' reflective journals combined with data from a survey focusing on student feedback about modules, which is part of a university-wide evaluation of teaching and learning, were also analysed in relation to the module taken by Level 2 students. The specific data used from the survey were related to 'identify up to three aspects of the module that most helped your learning'.

### **Assessing classroom tasks using video recordings: findings and discussion**

As outlined earlier in this chapter, the two tasks used for this study were oral presentations performed by Level 2 students and microteaching undertaken by Level 4 students. Data collected from both groups of participants will be presented and discussed in order to ascertain the extent to which video recordings contribute to student learning when such recordings are linked with activities that involved student assessment and reflection.

The university survey on modules completed by Level 2 students (N=19), with a response rate of 47.37 per cent, revealed the significance of the oral presentations as contributors to student learning. All respondents highlighted the oral presentations as one of the three aspects that most helped learning. Excerpts from the respondents clearly prove the above:

The oral presentations were an excellent learning experience and something that proved very useful. (R9)

The presentations were challenging but pushed me out of my comfort zone which is good. (R6)

The fact that students consider oral presentations helpful for learning cannot be ignored and every step needs to be taken to ensure that their learning potential is achieved.

Video recording is not mentioned in the university survey completed by Level 2 students. Instead of focusing on the usefulness or otherwise of video recording on their learning they named the wider activity 'oral presentations'. This may be due to the fact that they had already reflected about the effects of video recording of their presentation on their learning, namely in their learning journals and when meeting with the teacher. Thus, they may not have felt the need to mention on the survey that the video recording was one of the three aspects that contributed to their learning.

Data specifically related to the use of video recordings emerged from the students' reflective journals (Level 2 students) and from the short online questionnaire completed by both Level 2 and Level 4 students. All students doing the Level 2 module completed the learning journals in groups (N=5). The learning journals were written in Spanish but for the purpose of this chapter English translations have been used. The response rate for the questionnaires was 21 per cent from Level 2 students [4 out of 19] and 62.5 per cent from Level 4 students [5 out of 8]. The timing of the questionnaire may account for the difference in response rate by the two groups. The questionnaire was completed during the summer term, when Level 2 students were already on their summer holidays. However, Level 4 students were still doing research for their MA theses so they read their e-mail more regularly and that may have contributed to the higher response rate when compared to the lower response rate from Level 2 students.

The reflective journals completed by the students together with responses to the two questionnaires were read by the teacher/researcher and recurrent topics were coded. Further readings took place to refine the topics and finally the two main topics that emerged were reflection-on-action and affective factors associated with performance.

### **Reflection-on-action**

In line with the literature review undertaken, it was expected that reflection-on-action would figure strongly in the data. The four subcategories that became apparent were as follows: a) multiple views, b) body language, c) feed-forward and d) dialogue with teacher. Expressed in a variety of ways, most respondents valued the fact that the

video allowed them to see their performance as many times as they wanted. As an illustration, one respondent said:

The video makes the entire presentation available for watching time and time again. (G-S2)<sup>1</sup>

Furthermore, the idea of not having enough time to think about your performance while it is taking place is linked to the possibilities offered by the recording to watch and reflect after the event, as another respondent pointed out:

It was very useful to watch the video at home because during the presentation there is not enough time to reflect on what is going on. (G-S1)

Body language is an important part of performance, it applies particularly to the two case studies undertaken focusing on teaching and when giving an oral presentation to convey a message to an audience. Lessons about body language are learnt when watching the video recording that would not be possible otherwise. The following excerpts illustrate that:

Watching the video helped me to observe my behaviour/ voice/ gestures etc. (G-S3)

We were able to see that we had very little contact with the audience. (U-J5)

It has been argued that feedback is the most important aspect of assessment (Gibbs 2006). However, feedback often does not inform students about how to improve their performance which is the idea behind feed-forward (Bloxham and Boyd 2007). Feed-forward is strengthened when it is combined with dialogue between the teacher and students as some students need support from the teacher to guide them in spelling out what they need to change to ensure that future learning takes place. These sessions between teacher and students provide excellent opportunities to develop the students' ability to analyse video, thus ensuring that the students have the necessary 'visual intelligence' as argued by Yakura (2009: 177). The questionnaires provided rich data about these two subcategories of *reflection-on-action* but due to space only a few excerpts have been chosen to point out how video recordings are effective to facilitate feed-forward that will contribute to enhance future student learning, more so if there is dialogue between the teacher and the students:

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<sup>1</sup> The following abbreviations are used G= graduate module, U= undergraduate module , S= student, J= journal.

Recording the presentations allows us to see what we did well or poorly and help us to improve our presentation skills. (U-S4)

Helped me to determine and organize my tasks better in terms of number of activities, types of activities, and the nature of responses expected from learners if given second chance. (G-S4)

The video helped us to see that our PowerPoint had too much information so we agreed that we had to improve that aspect of our presentation. (U-J3)

Watching the video helped to understand weak points of the lesson ... and think about the ways to improve and take advantage of every detail. (G-S3)

After watching the recording, as a group, we learnt that we had to coordinate our work more in the next presentation. (U-J4)

The video helped to determine the way forward – what to do next and how to do it to increase interactions with learners. (G-S4)

...to see, for example, if someone was reading too much from flash cards and not engaging with the audience enough. (U-J2)

I was able to review my presentation and reflect on what went well and what improvements could be made. (G-S5)

Having the recording to watch it and discuss it with the teacher is hugely advantageous and would indubitably help us to learn. (U-S3)

### **Affective factors related to student performance**

It became apparent that many points made by the students in relation to the use of video recording, either about the oral presentations or the microteaching task, were related to affective factors. These are emotional characteristics of a person that influence his/her response to any situation (Gardner and MacIntyre 1993). Positive factors include student confidence and among negative ones we find anxiety. Although these affective factors will determine the outcome of learning, they are often neglected in the learning process. It is argued that confidence leads to positive attitudes towards learning (Gardner and MacIntyre 1993); while the outcome of student anxiety may result in a negative experience of learning (Liu 2012). Positive factors arising from the video recording named by the students in the questionnaire were motivation and confidence. It appears that knowing in advance about the video recording motivated some students to work harder in the preparation of their

presentation. One of the students specifically noted that knowing in advance that she was going to be recorded gave her the motivation to prepare her lesson as well as she could:

Knowing in advance that I would be videotaped during teaching was an additional incentive to thoroughly prepare the lesson. (G-S1)

Adding to increasing student motivation for learning, the video recording of the two tasks had a positive effect on student confidence, as noted by the respondents:

Seeing myself, and my students' reaction to my teaching, on video gave me more self-confidence. (G-S4)

The video analysis reassured me that my spontaneous perception of the environment I created was actually adequate. (G-S2)

The presentations pushed me out of my comfort zone and I became very comfortable speaking in front of a group. (U-S4)

On the other hand, lack of confidence can be the result of being video-recorded as noted by one of the respondents:

Shy learners can lose confidence and find hard to speak in recorded sessions. (G-S4)

As highlighted by Yakura (2009), it was expected that anxiety would come up in the student questionnaire as one of the factors arising from the use of video recording.

The excerpts below confirmed the prediction:

[the video recording] added to the pressure of the presentation ever so slightly but this can be seen as a positive because the experience will stand to us when we present in 'the real world'. (U-S2)

I was slightly nervous before the recording but soon forgot about the camera once I started teaching. (G-S1)

The first few minutes [of being videotaped] are somewhat intimidating. (G-S2)

It made me a bit nervous – maybe not the recording, but observation as a whole. (G-S3)

The video recorder certainly increased my nervousness. (G-S5)

When analysing the above excerpts closely, we can see that a certain degree of anxiety is not an obstacle for learning. The main concern is when anxiety gets to an extreme that prevents learning to take place. Anxiety, as noted above, was not only due to being video-recorded; the fact of having to teach a language or doing an oral

presentation in the L2 – more so if it is the first time for the students – made some students nervous too. It is not easy to provide *tips* on how teachers should manage affective factors in the learning process. However, it is advisable that such factors are considered in the planning and facilitation of learning, and they should ensure that learning tasks are designed aiming specifically at promoting positive affective factors and reducing negative ones.

A further consideration by teachers when planning classes in which video recording will be used should be the development of activities that contribute to building student trust. Such tasks would have a positive effect on learners and add to the development on other factors discussed above such as motivation, confidence and the reduction of student anxiety. Data obtained for this study clearly illustrates that the teacher's aim to build trust was recognized by the students:

It was clear from the beginning that the video would not be used for anything else but our own analysis and progress. I would not have been comfortable with the material being used externally without my agreement. (G-S1)

The teacher created for all our sessions a very positive, pressure- and competition-free environment so that everybody was comfortable with being videotaped. (G-S3)

An approach used to build trust with the students prior to using video recording of their presentations/lesson entailed watching and discussing sample of presentations and teaching lessons available on the web. At times, when students were critical about the participants in those sample recordings, the teacher tried to find ways for students to see how a negative point can lead to improve the presentation. To complement the above, the watching and discussion of sample videos was linked to the specific criteria used to assess the presentations/lesson prior to the students being recorded. An open discussion helped students to internalize the criteria by applying it to sample of video recordings. This reinforces the argument made by Sadler (2009) about the need to prepare students to understand the quality of work when involved in assessing it.

To sum up the findings, video recording the two classroom activities appears to be a beneficial way of involving students in the assessment of their work in a non-threatening manner. Each group was able to see for themselves the aspects of their presentation/microteaching that needed to be improved. Level 2 students noted issues related to content, coordination of group work, use of slides, oral skills in Spanish or

time management while Level 4 students were able to focus on issues related to the planning and delivery of their lesson in very concrete ways. However, if watching the video is not followed by feedback and feed-forward in dialogue with the teacher, the learning potential of the video recording may be limited. This was the case in 2012-13, when meeting with the teacher took place with Level 4 students but it was optional with students from Level 2. It became apparent that those students who did not meet with the teacher did not engage in reflection as much as those who had met the teacher. Furthermore, they did not implement as many changes in their final presentation as students in this year's cohort. The students involved in the study perceived these activities positively and were happy to comment on their performance, to reflect about it and to learn from the experience in order to apply it to similar activities in the future. Some students noted an increase in their confidence arising from performing the task. However, both groups pointed out that anxiety was a factor arising from being video-recorded.

## **Conclusion**

This study has shown that learning through assessment is an effective way to achieve the constructive alignment argued by Biggs (2003). Even when used for summative purposes, assessment is not an add-on to teaching but it becomes an integral part of the teaching and learning process. Working with the assessment criteria and using samples of videos for discussion in class, or outside class, facilitating dialogue and reflection between teacher and students contributed to raising students' level of understanding about the quality of their work/performance, thus supporting Sadler's (2009) argument about the need to develop such understanding with students.

Using video recording for learning in this study corroborates previous findings whose benefits include multiple viewing, possibilities to pause, rewind, etc. and facilitating deep analysis of body language, allowing us to see what normally we don't see (Zhang et al 2010). More importantly, this study shows that the best way to enhance reflection and learning through assessment of video-recorded tasks is for teacher and students to engage in dialogue to ensure that the ability to analyse video or 'visual intelligence' (Yakura 2009) is developed. Thus, effective feedback and feed-forward (Carless et al 2006) become integral components of a learning-oriented approach to assessment.

Affective factors were significant in this study. As it was pointed out above, affective factors are often neglected in teaching and learning and Horwitz (1995) argues that they need to be considered more in second language learning and teaching. Developing positive factors such as confidence and motivation is imperative to guarantee that video recording can enhance learning and not hinder it. Anxiety is undoubtedly the more important factor to address when introducing video recording in the classroom. If teachers do not consider the effects that anxiety may have on student learning when introducing video recording, this practice may contribute to the development of negative experiences about learning for some students and it may be the case that the potential that video recording has for learning may not be fully utilized.

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