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3D assessment: Looking through a learning lens

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Abstract

Assessment is used almost universally as a means of measuring aspects of student learning in order to sort students into classifications of achievement and provide data with which to compare students with each other and with standards of performance. Its use as a learning tool is not so widespread or understood, in spite of the literature that demonstrates the potential for

positive learning outcomes from particular types of assessment processes. It is well known that assessment is one of the driving forces governing how students learn. Assessment influences not just what students will learn, but how they will go about that learning and the nature of the learning itself. The most common form of assessment in higher education is assessment by staff, a highly effective process when the accuracy of knowledge of content needs to be tested. But the accumulation of knowledge and skills is no longer the only goal of an education that takes the certainty of change into account. Graduates now need to be prepared for independent, self-directed and self-monitored learning for the long term if they are to adapt successfully to the changes they will encounter throughout their lifetimes. It is now widely accepted that a broad range of positive learning outcomes result when students are involved in the assessment of their work and the work of their peers. Self-assessment and assessment by peers have been employed with increasing frequency since the early 1990's, particularly in formative assessment. After considering some of the literature on assessment, this paper describes a higher education music course in which three dimensions of assessment are used; in addition to the traditional assessing by staff, both self-assessment and assessment by peers are applied to recorded creative work. Students learn as active participants in the assessment process rather than merely being those to whom assessment is done in order to sort them into categories or ranking schemes.

Key words

assessment, learning, music, peer assessment, self-assessment

Introduction

When assessment has been considered with its potential to influence learning in mind, a variety of positive effects have been observed. Different kinds of assessment produce different kinds of effects, each contributing particular kinds of learning and each having

value. Many people have had the experience of looking through particular kinds of lenses at a two-dimensional image and perceiving a third dimension of depth. Looking at assessment through a learning lens reveals three dimensions of assessment that can combine to create a depth in the assessment process that might otherwise go unobserved.

What is assessment?

Assessment can be formal and informal, formative and summative, progressive and retrospective. It can be conducted by faculty or other participants and can be face-to-face or on-line. Some of the forms it can take include written assignments, timed and unseen examinations, practical work, group projects, oral presentations, the presentation of the products of artistic work and the judgments of tutors. It can be used to motivate and promote learning, to provide feedback and to enable the competence of students to be officially recorded and graded. No matter what combination of these forms a specific instance of assessment might take, it is almost certain that it will have been teachers who made this choice.

Assessment has been used as a means of managing students, a source of teachers' power over students who will direct their learning to what they think the teacher will want to assess and learn in ways that will produce the best results for the type of assessment being used (Biggs, 1999; Prosser & Trigwell, 1999). When students are given an opportunity to take an active role through self-assessment or peer assessment, the test most frequently applied to the veracity of their marks is how closely they align with the teachers' assessments, so even in an act associated with student empowerment, the teachers' discipline is still exercised (Daniel, 2004; Ramsden, 1992; Rawson, 2000; Tan, 2004). Assessment processes should reflect the kinds of evaluations we would like our students to be able to employ after graduation, so if an ability to be self-auditing is a desired outcome of a course, at least some active assessment by

students should be included (Gijbelsa, Wateringb, & Dochy, 2005; Struyven, Dochy, & Janssens, 2005).

First dimension: Assessment by staff

Assessment is usually conducted by staff on students, for the purpose of making a judgment connected to progression through a program, classification of results and compliance with standards (Rawson, 2000). When people were mainly being prepared by education for work in circumstances where compliance with instructions and acceptance of the judgments of others was needed, this authoritarian mode of assessment was appropriate most of the time. It is still appropriate where sophisticated professional judgment and high levels of specialized experience are needed to make valid assessments, and to focus and motivate the learning of essential discipline knowledge. In these circumstances, this dimension of assessment should be included. In any case, this is the sort of assessment most teachers and students will have most experience of, and both groups will feel comfortable with at least some inclusion of this traditional practice.

However, the notion of authentic assessment involves students in the production of knowledge in ways that more closely resemble knowledge applications outside of structured education, not always under supervision and frequently responsible themselves for progressive evaluation and direction (Bryce, 1997; Gardner, 2003). Often only the products of this work will be viewed by the teacher, and the process of its creation can only be known by its creators (McLaughlin & Simpson, 2004). In these circumstances, a second dimension of assessment is called for.

Second dimension: Self-assessment

Self-assessment of work while it is in progress is necessary if the independent learner is to minimize time spent either inefficiently or unproductively. Critical self-reflection on both the product and the process of learning enables students to become more aware of the quality of their own work, leading to a clearer understanding of how it might be improved (Claxton, 1999; Daniel, 2004; Rawson, 2000; Searby & Ewers, 1997).

Limiting assessing to a staff-led activity may limit the ability of students to assume control of their own learning (McLaughlin & Simpson, 2004). Self-assessment, on the other hand, can develop skills that are regarded as integral to life-long learning and encouragement of the development of the requisite skills and disposition should be included in education processes (Rawson, 2000). It is one of the ways the focus can be moved from teaching to learning (Pope, 2005; Smyth, 2004), and it is an essential ingredient of problem based learning (Gijbelsa, Wateringb, & Dochy, 2005). Students need to develop the inclination and ability to be their own first marker if they are to continue to learn independently and effectively (Claxton, 1999; Claxton, 2002).

Third dimension: Peer assessment

One of the ways the literature indicates self-assessment skills can be nurtured and developed is through the practice of a third dimension of assessment. Assessment by peers is a widespread practice in the professional arena and it is found with increasingly frequency in the field of higher education (Blom & Poole, 2004; Bloxham & West, 2004; Daniel, 2004; Gatfield, 1999; Hunter, 1999; Li, 2001; Liu, Lin, & Yuan, 2002; McLaughlin & Simpson, 2004; Pope, 2005; Prins, Sluijsmans, Kirschner, & Strijbos, 2005; Searby & Ewers, 1997; Smyth, 2004; Struyven, Dochy, & Janssens, 2005; Tan, 2004). It is used for assessing group work when members of a project group might provide feedback and/or marks on the contributions of their peers to the outcome and thereby have an influence over what proportion of the credit for the work should be attributed to each member. This would seem to be especially appropriate when the group work is undertaken without the supervision of a tutor, when only the group members can make judgments on the processes of the creation of the work.

Peer assessment can also be applied to the individual submissions of a student, with the peer (or a group of peers) fulfilling either part or all of the assessment function more usually conducted by faculty. Acceptance of this kind of peer assessment provides greater challenge to academics because it involves the assignment to students of power that was formally exercised by the teachers. Even though this is likely to be more time-consuming for those staff managing this kind of process than it would be to simply conduct the assessment themselves, the literature supports the notion that learning benefits exist for students involved in the assessing of their peers.

Students will usually need some instruction in the processes and principles, and it is important that students are given enough information to be able to be confident of their abilities to conduct valid assessments of the work of their peers (Purchase, 2000; Rust,

O'Donovan, & Price, 2005). Evidence that this kind of assessment process is both valid and relevant to their circumstances may be helpful in preparing students to engage enthusiastically in this activity. It is important that the student assessments have real value. For example, peer assessment can be used to contribute to the mark, rather than simply being an exercise or training for something they may engage with in their futures, when they are 'properly' qualified. The awarding of marks for the act of assessing is a very visible way of declaring the value placed on this activity in a course (Bloxham & West, 2004; Prins, Sluijsmans, Kirschner, & Strijbos, 2005).

One of the benefits claimed in the literature for peer assessment is its potential to enhance the abilities of students to conduct self-assessment. Peer assessing, particularly in company, will contribute to the development of enhanced self-monitoring skills (Brown, Bull, & Pendelbury, 1997; Daniel, 2004; McLaughlin & Simpson, 2004; Searby & Ewers, 1997), and people's abilities to make judgments of their progress relative to criteria and standards (Hunter, 1999; Sadler, 2005). An ability to provide and accept peer-feedback is an important attribute when working in collaborative situations (Pope, 2005). The modeling of assessment behaviors in panels that include staff or more experienced students may also help less experienced students develop confidence in their abilities to conduct valid assessments.

So what?

It is sometimes assumed by both teachers and students that moving some of the assessing from teachers to students will produce savings in staff time. This is not supported by the literature (Daniel, 2004; Hunter, 1999; Searby & Ewers, 1997). It is important that participants understand that there are pedagogical justifications for active assessment and that they are not simply being asked to do 'teachers' work'.

A range of benefits for student learning is claimed in the literature on peer and self-assessment, including enhanced critical reflection, communication, and evaluation skills, along with increased self-confidence (Blom & Poole, 2004; Boud, Cohen, & Sampson, 1999; Brown, Bull, & Pendelbury, 1997; Daniel, 2004; Hunter, 1999; Purchase, 2000; Smyth, 2004). Indeed, some regard inclusion of students in assessing is a necessary aspect of involving students fully in the learning culture of an institution (Bloxham & West, 2004). Peer assessing has been reported to improve not only the assessing abilities of students but also the learning of the content that is the subject of the assessment (Prins, Sluijsmans, Kirschner, & Strijbos, 2005). It is for these reasons that teachers should look for opportunities to include active dimensions of assessment in their practice.

An application

To follow is a description of a set of assessment activities that include all three of these dimensions of assessment, each contributing in particular ways to the learning of the participants. Given that the previously used assessment method in this course was assessment by faculty, it is argued that students have a richer learning experience through the use of all three dimensions than they would have otherwise had, particularly in terms of transferable learning skills, and that this is achieved while still providing equitable, reliable and valid assessment. It is a widely held notion that it is only when student-generated marks align well with staff-generated marks that assessment by students can be regarded as valid. This is the test that is most often applied when considering non-traditional assessment, and when this test is applied to the marks for this course, the data do not support concerns about the validity of marks in this system.

The course

Popular music production involves the production of a CD of original music each semester together with a range of written submissions detailing aspects of the creative and learning processes. Students are assigned to panels that conduct the assessment of the recorded work. It is the major study of a degree program that combines the study of the literature, history and analysis of popular music with instruction in audio engineering and production, technology, music business and other supporting studies to prepare students for the popular music industry. While this range of study contributes to positive outcomes for graduates, the assessment methods used in the major study provide an opportunity to enhance meta-learning, students' awareness of how they learn. It requires critical self-reflection, independent work, objective assessments of the work of others, the development of analysis and communication skills, and the ability to respond to feedback and work interdependently with others. These attributes will enable self-directed and self-monitored learning whenever necessary in the changing environment of the future.

First dimension assessment

Staff members are engaged in the assessment of the major study in several ways, beginning early in the semester when students submit a proposal for their creative work. This documentation describes the planned recording project, explains what it is intended to achieve, and outlines how it will be achieved. This is marked by staff and contributes 3% of the course mark.

At the end of the semester, students submit a reflective journal that includes a description of the project, a project rationale, an explanation of the CD cover, reviews of the masterclasses attended during the semester and critical reflection on the project itself. Most

importantly, the journal also includes reflections on the learning experienced as a consequence of the project. This is marked by staff and contributes 27% of the course mark.

Students are assigned to panels that assess the recorded folios of a selection of their peers through the provision of a paragraph of feedback and marks for each track, along with marks for the submission as a whole. While this is essentially summative assessment, students take this course in each of the six semesters of the program, so there is also a formative aspect. Each panel includes a staff member but no extra weighting is given to the staff marks in this activity. The quality of the students' work as a peer panel member is assessed by the course convenor and contributes 10% of the course mark.

Second dimension assessment

Students submit a track-by-track report that describes their intentions for each track submitted. It includes a statement about the intentions for the track, in what ways other people may have been involved, and observations on the outcome. It also includes self-marking, not included in the calculation of course marks, but intended to provide a concise representation of what the submitting student thinks about their submission, not just for the information of the panel, but more importantly, as a means of encouraging critical self-reflection. This is also the main purpose of the reflective journal.

Third dimension assessment

All year levels participate in each panel along with a staff member, so there are people present who have experience in the process who are able to model good assessing practice. This enables less experienced students to find their feet in the role of assessing and develop confidence in their abilities to perform this role. More formal instruction in the process and information on the underlying principles is provided in lectures each semester.

Marks are awarded for each track for how well the track meets the stated intentions, its overall quality, and for the quality and significance of the student's contribution. Marks for the individual tracks are averaged and added to marks for the submission as a whole and for the quality of the track-by-track report. Very explicit guidelines for the awarding of marks are provided for each criterion and the standards that are applied are based on release-quality examples of music in the style of the submission.

Making the grade

One of the concerns most frequently expressed by both students and academics about peer assessment relates to marking. The peer marking in this process provides the summative marks for the recorded creative work component of the course mark (60%). While the course convenor could moderate these marks, this has not been necessary since the introduction of detailed and specific marking guidelines in semester one, 2004. While students are encouraged to make independent judgments as to the quality of a submission, the marking guidelines provide a very specific score for each of a range of judgments so that the marks derived from these judgments will be consistent. The explicit nature of the marking guidelines, instruction in the process and the opportunity for students to conduct this assessment as part of a group are all important features of this method.

Before this process was introduced in semester two, 2001, the creative work of students was assessed by the course convenor alone, a common practice in music in higher education. Staff marking is often regarded as a benchmark for validity of student-generated marks. A comparison of the course convenor's personal marks and those generated by the peer panels of which the course convenor was a member is included in Table 1. This demonstrates that the impact of this assessment practice on the marks awarded is minimal.

Table 1 Panel/staff marks comparison

Marks variation out of 60 marks	2004 Sem 2 n=33	2005 Sem 1 n=36	2005 Sem 2 n=34	2006 Sem 1 n=35
Within 1 mark	54.5%	44.4%	47%	65.7%
Within 2 marks	78.8%	80.6%	70.6%	88.6%
Within 3 marks	90.9%	88.9%	82.5%	97.1%
Within 4 marks	97%	100%	94.1%	100%
Within 5 marks	100%		97.1%	
Within 6 marks			100%	

Conclusions

In light of the overwhelming evidence in the literature, it would seem that there are significant learning benefits to be gained by involving students actively in assessment and few risks to standards. Providing that the process is conducted carefully, the impact on marks can be minimal, demonstrating that, certainly collectively (and possibly individually), students are well able to conduct assessment appropriately. While there may well be additional work for staff associated with active assessment processes, the learning benefits for students are significant and justify this additional effort. Teachers who are committed to maximizing the learning of their students should consider the implementation of dimensions of active assessment whenever possible, looking at assessment through a learning lens.

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