A Guide to Peer and Self Assessment
Approaches and Practice Strategies for Academics

Dr Duncan D. Nulty

Context and key issues

As noted in the *GIHE Good Practice Guide for Enhancing Student Engagement in the First Year* "Student engagement in learning and learning communities is a key to success in the first year of university." (p.1). However, while this is particularly important in first year, it is *also* more generally true of student success.

One particularly effective way to engender such engagement and develop learning communities is through the use of student peer and/or self-assessment. Boud (1995) and McDonald & Boud (2003) have argued that the literature on self-assessment "suggests that the formal development of self-assessment skills is an important part of the curriculum at all levels." (McDonald & Boud, 2003. p. 210). Further, in an extensive review of literature about formative and self-assessment, Black & William, (1998) argued that "self-assessment is a *sine qua non* for effective learning" (p.26) and, as such, is "not an interesting option or luxury: it has to be seen as essential" (p.54-55).

More recently, reporting on a research project spanning three years, (O'Donovan, Price, & Rust, 2004) convincingly demonstrated "... that inviting students into the marking process can mean that assessment broadens out from merely the assessment *of* learning to become an effective learning tool in its own right, facilitating assessment *for* learning." (p.332). Thereby, "enabling students to fully understand their own learning and the goals they are aiming for" (Elwood & Klenowski, 2002, p. 244).

Definitions

Boud (1995) argues that *all* assessment involves two inter-related activities:

> "First, is the development of knowledge and an appreciation of the appropriate standards and criteria for meeting those standards which may be applied to any given work." (p.11).

In other words, before it is possible to assess something, one first has to have learned about that something *and* to know what counts as good work. Implicitly, knowledge of criteria and standards in one area of knowledge (discipline) do not necessarily transfer to another area.

> "Second, is the capacity to make judgements about whether or not the work involved does or does not meet these standards." (p.11).

In other words has to learn how to make these judgements, and to make them well. This is not as simple as it may sound, because it is often very difficult to articulate standards and criteria in a way which can be understood – particularly by those who are learning the discipline, but also even by those who are experts (See for example (O'Donovan et al., 2004; Rust, Price, & O'Donovan, 2003; Sadler, 1987). Making such judgements is a skill, and like all skills, it needs to be practiced if it is to be developed.

Boud (1995, p. 12) citing himself, defines self-assessment as:

> "the involvement of students in identifying standards and/or criteria to apply to their work, and making judgements about the extent to which they have met these criteria and standards. (Boud, 1991, p. 5).

By extension, peer-assessment is the same, except that in this case students are explicitly involved in *helping each other* to identify the standards and criteria, and making judgements *about each other's work* in relation to those criteria. Boud (1995) explains that peer-assessment is essentially subordinate to self-assessment because it is ultimately through self (not peer) assessment that individuals evaluate their actions/work and adjust future behaviours/ideas. On the other hand, he also emphasises that self-assessment necessarily incorporates the views and judgements of others because "We live alongside others in community with them and share common cultures and values." (Boud, 1995, p. 15). This is a critical point: it means that the act of self-assessment is *informed* by our understandings of the ways in which others (peers) would assess us, just as our own understandings simultaneously inform the judgements of those others. There is a reciprocal inter-dependency between individuals and the collective community of which those individuals are a part (See also Sweep, 2008).

Key components for success

It follows from this introduction that there are two essential components for success with peer and self assessment. These are:

1. Engaging students in the process of identifying standards and/or criteria by which their work, and that of their peers, will be judged; and

2. Engaging students in the process of making judgements about the extent to which their work, and the work of other students, has and has not met the identified standards and/or criteria.

In general, this is possible at all levels of university education – that is, students at all levels *can* be engaged in this process. Furthermore, it should be recognised that the ability to assess one's own work, or that of peers, is something which has to be developed over time. It follows that peer and self-assessment *should* be included at all levels to allow this development to occur in a deliberate and systematic manner. According to Boud (1995) "... the introduction [of student self-assessment] should be made at the earliest possible stage, and the skills practised thereafter, most desirably in a sequence of courses through the years of a program." (p.12)

Benefits

Significant benefits accrue to students who are engaged in this manner:
i. *All* students are encouraged to participate in legitimised, elaborated and systematic processes that support learning, which otherwise only some students would engage in by *ad hoc*, spontaneous and informal means;
ii. Students feel ownership of the assessment (and learning) process rather than alienated or victimised by it;
iii. In many cases students feel that their own engagement in peer and self-assessment helps prevent unfair judgements of their work since they are in a uniquely informed position to access information which academics may not be privy to (especially for example in relation to group work or when students' work involves engagement in critical self-reflection);
iv. Students' motivation and engagement in learning is commensurately higher;
v. Students' understanding of the meaning of the criteria and standards is richer – particularly when multi-cultural groups of students participate in the identification of these as a learning community;
vi. Students' gain a better understanding of criteria and standards which are difficult to articulate because the process entails the transfer and internalisation of both tacit and declarative knowledge; and
vii. Collective participation helps establish and support a scholarly community of learners who collaborate and cooperate in supporting each other's learning.

Strategies for success

Chapter 5 of Race, Brown and Smith (2005) provides particularly succinct guidance to people wishing to make use of peer and/or self-assessment. These authors provide advice about why these techniques are worth considering, the activities which lend themselves well to peer-assessment, how to get students to formulate assessment criteria, and several sections to help establish student self-assessment practices. Their material is presented in simple terms. Interested readers are urged to make use of this very accessible resource as an initial guide.

One section from these authors is called "Getting started with peer-assessment" and contains ten key points (p.135-6). Another section is titled "Student self-assessment" and contains 19 key points (p.144-6). What follows is a more expanded commentary on a selection and distillation of these 29 points *combined.* The result is 13 key strategies for success.

In this regard it is important to note that, unlike the treatment of the topics provided by Race, Brown and Smith (2005), what follows is predicated on the view (introduced

earlier) that the use of peer-assessment is always (even if only implicitly) a precursor to, and an aid for, developing skills of self-assessment, and that self assessment must always incorporate peer-assessment (even if only implicitly via consideration of the values and beliefs peers would have called upon if they too were exercising judgement). As such, what follows deliberately does not treat peer and self-assessment separately, but rather as mutually supportive components of a scholarly professional community which simultaneously maintains its integrity and the integrity of it's members by *validating itself* in respect of the judgements made either collectively, or by its individual members (See also Sweep, 2008). Learning to become members of that community is the journey our students are embarked upon, for which we as academics are guiding mentors.

Finally, it should also be noted that whilst the headings which follow are (for the most part) the same as many of those used by Race, Brown and Smith (2005), the commentary provided differs from, and generally goes well beyond, that provided by these authors.

1. Take it one bit at a time.

You, your colleagues and your students may be new to peer and/or self-assessment. Introducing it on a small scale first is prudent.

2. Keep everyone in the picture.

Explaining to students and staff what you are doing and why helps everyone to understand, and to commit, to the technique. For example, students benefit from re-assurance that they are acquiring an assessment skill that they will use in their future careers, and which will help with their learning. This reassurance can be provided (by the teachers) and/or experientially through the learning benefits derived from engagement in peer and/or self-assessment. Tutors also benefit from clear directions on the need to be critical but constructive – when this aspect in particular is not emphasised, peer-assessment runs the risk of *undermining* group cooperation (the opposite of what it can and should achieve).

3. Provide mark-free rehearsal opportunities

Race, Brown and Smith (2005) argue that:

> "... this helps students get the hang of what is required of them and also builds in an opportunity for students to get interim feedback at a stage when there is time to bring about improvements." (p.135)

While this is true, there are other more important justifications to providing mark-free rehearsals.

Firstly, one of the principal benefits to peer and self-assessment is that it helps students learn to collaborate and cooperate as equal members of a community of scholars. Active participation in this community (of which the academics are also an integral part) helps students to identify and understand the meaning of criteria and standards pertaining to their work in a far richer way than can otherwise be achieved.

In such a community, allocating marks is of secondary importance. Indeed, unless marking is handled with care, it can introduce an element of competition which is counterproductive to the learning environment which is desired.

Second, it follows that an important component of a community of scholars is that 'mark-free' opportunities equal *risk-free* opportunities. Students can make mistakes and learn from them without penalty. This helps learners to dispel feelings of fear anxiety and embarrassment associated with revealing their ignorance – this opens the way for corrective explanations to be explored, and thus, helps them to learn.

4. Provide, or (more ideally) negotiate, really clear assessment criteria

O'Donovan, et al. (2004) argued that it is often particularly difficult to specify criteria and standards in ways which are unambiguous and explicit, and that the use of peer and self assessment is a particularly potent way to overcome this difficulty. They, like Boud (1995), favour peer and self-assessment to be conducted in ways that directly involve students in the identification and definition of criteria and standards. Having said this, there are clearly situations in which criteria and standards can be more easily specified than others – for example, when more definite answers to problems exist. In such circumstances, the provision of criteria may be sufficiently clear and unambiguous to allow peer and self-assessment to proceed directly without student involvement in their determination. In other circumstances, gaining an appreciation of assessment criteria is very much more difficult (a theme returned to later). In these cases there is particular benefit for students in being helped to develop that understanding through discussion, open critique, reflection, guidance and illustration.

Regardless of the precise demands and constraints of any particular context, the fundamentally important point is that in all cases the objective is to ensure that the students are helped to gain a clear understanding of criteria and standards which relate to their work. Sadler (2008) describes the intent as: "... a commitment to ensuring (so far as possible) that students are inducted into an understanding and appreciation of the grounds upon which grading decisions are made." (p.18, pre-print).

5. Make peer and self-assessment marks meaningful

It has already been noted that peer and self-assessment are uniquely useful for helping students to develop their understanding of criteria and standards used in judging their work, and that it is this quality which provides the primary learning benefit. Furthermore, ensuring students are informed of this fact, and directly experience, it is likely to enhance their engagement with peer and self assessment. It may be argued that this is as far as peer and self-assessment should go – that is, its use should be solely formative. However, a contrary view consistent with the advice of Race, Brown and Smith (2005) is that student engagement can be further enhanced if a meaningful proportion of the marks used to determine final grades are derived using peer and self-assessment. That is to say: it should count for something more than just a learning aid.

6. Moderate peer and self-assessment

If students are the sole arbiter of the marks awarded through peer and self assessment there is the potential that they will see this as unfair. Similarly, students and other academics may be sceptical of the accuracy of marks awarded this way. There are several reasons.

First, students may not be confident that their judgements are accurate – or can be. This is a view likely to be shared by many academics (though, notably, most research shows that students at all levels are able to make reasonably accurate judgements about their performance if appropriately guided and supported – – see Falchikov and Boud, 1989, Boud and Falchikov, 2007, and Topping, 1998.)

Second, it follows that students are seeking to learn (including how to make accurate judgements of their work) and expect the teachers to help them to do so. Likewise teachers have a professional responsibility to teach, and an expectation that they will make judgements about the quality of students' work. After all, traditionally, it is the academics who are the sole arbiter of marks awarded. Thus, some participation by teachers in teaching students how to assess is required to meet expectations and responsibility. Some process for moderation of marks also helps to ensure that students engage more meaningfully in the process, thereby also doing much to negate the possibility of collusion.

A deliberate component of moderation of peer and self-assessment is to accumulate evidence which can show how well students' judgements compare with the academics. You, your students and colleagues can all be reassured by such data if student marks are found to be similar to those provided by lecturers. Where such data is not found, corrective actions can be taken.

7. Keep the system simple

Boud (1995) argues that the introduction of peer and self-assessment can reduce the total burden of marking accruing to academics. While this is not always realised in practice, it is certain that the more complex the system the less likely workloads will be reduced, and the less likely it will be for students and tutors to engage with it.

8. Allow plenty of time

Assessing is a complex skill: whether by virtue of the need to amass prerequisite disciplinary knowledge, or by virtue of the complexities of the act of judging, or both (Boud, 1995; Sadler, 2008) it is a skill which needs time to develop. In addition, the nature of peer-assessment in particular is that it is collaborative, this means that it involves discussion and debate, and implicitly a search for consensus – or, at least, shared understanding. Finally, when peer and self-assessment are used, it is frequently done in group settings and/or in association with the presentation of students' work. All of this takes time – but, notably, research shows that it is time well spent in bringing about improved learning outcomes.

9. Make peer and self-assessment an integral element of learning

As noted earlier, Black & William, (1998) argued that "self-assessment is a *sine qua non* for effective learning" (p.26) As such, engagement in peer or self-assessment *is*

integral to learning. However, what Race, Brown and Smith (2005) mean by this point is to ensure that peer and self-assessment is used in a deliberate, systematic way to engender the development of skills which are consistent with *lifelong* learning. In this regard Boud (1995) argues that self-assessment "is a necessary skill for lifelong learning" (p.13). By this he means that it is the responsibility of university educators to help students to develop the skills they will need to be effective *beyond* their university life. Citing Candy, Crebert, & O'Leary (1994) and Justice & Marienau (1988) he says that "The ability to self assess is a key foundation to a career as a lifelong learner." (p.14) and goes on to note that graduates skilled in self-assessment "are more likely to monitor their own performance without constant reference to fellow professionals" (p.14) a key outcome for any graduate.

10. Consider what no one but students can really assess.

The point here is that the academic cannot observe all the learning processes students engage in, nor deduce all the learning outcomes these yield: some learning acts, and some learning outcomes can only be observed by the students themselves. Race (2001) has argued that one reason why peer and self-assessment can be so useful as a learning aid is that they can be used to directly assess these components of learning. In this way these components are legitimised in an explicit way to students, and students are rewarded for engaging them. This is appropriate for two reasons. First, it motivates students to participate in these activities. Second, we know that such engagement is a pre-cursor to the achievement of the learning outcomes we desire. Examples are "when students have been thinking deeply about something because they have been involved in actually doing it" (Race, 2001, p. 6) or when assessing self and peer contributions to group processes, or the amount of personal effort and motivation put into the tasks (Race et al., 2005).

11. Emphasise the crucial relationship between criteria, evidence and self-evaluation.

The advice provided by Race, Brown and Smith (Race et al., 2005) is simply to help students to focus their judgements of their own performance directly on the assessment criteria and to ensure that these judgements are informed and supported by similarly focussed evidence. In other words, students should be helped to learn how to make and justify their judgements using evidence that is directly relevant to particular criteria. In this respect, their advice is consistent with the intent noted earlier as: "... a commitment to ensuring (so far as possible) that students are inducted into an understanding and appreciation of the grounds upon which grading decisions are made." Sadler (2008) (p.18, pre-print). However, the further point Race et al. (2005) make here is that students *themselves* need to learn to make these same grading decisions.

While this advice and intent is sound, the situation is often complex. For a wide range of student work, Sadler (2008) describes the precise complex nature of judgements made as "analytic" or "holistic" (Sadler, 2008 Pre-print p.3) (readers are directed to Sadler's article for a thorough explication of these terms which is not required here). Further, O'Donovan et al (2004) and Rust et al (2003) explain that regardless of which approach is taken, these judgements can also involve an appreciation and application of *tacit* knowledge which is difficult to convey explicitly. Accordingly, these

authors among others have noted the very high degree of difficulty associated with making judgements about students work, in particular when that work is of a divergent or 'open' kind (Sadler, 1983, 2008). Clearly, that difficulty extends to the students themselves when they attempt to make such judgements.

Sadler (2008) lists examples of 'open' or 'divergent' works and cogently goes on to explain that their use deliberately provides:

> " opportunities for students to demonstrate sophisticated cognitive abilities, integration of knowledge, complex problem solving, critical opinion, lateral thinking and innovative action".

In consequence, they "are typically complex, in the sense that their quality can be explained only by reference to multiple criteria, possibly including some that are abstract in nature. ... and ... there is no single correct or best answer, result or solution"

Accordingly, determining their quality:

> "... requires skilled, qualitative judgments ... made directly by the appraiser, [that] person's brain being both the source and the instrument for the appraisal. The judgment is not reducible to a set of measures or formal procedures that a non-expert could apply to arrive at the 'correct' appraisal." (Pre-print p.2)

It follows that our commitment to helping students to understand and appreciate judgements about their work, and more importantly to develop the ability to make those judgements themselves, is a complex task – one for which, as Sadler (2008) advocates, peer and self assessment can help significantly.

12. Encourage students to engage in a range of self reflective activities.

What follows is a brief amalgam of several points from Race, et al. (2005). all of which specify particular activities that students can use to help develop their abilities to self-assess.

A non-inclusive list of examples include: use reflective accounts and journals; assess peers; use video to informally self-assess presentation skills; include self-assessment with student portfolios; include self-assessment when assessing group process; use flexible learning materials and approaches to embed more continuous forms of assessment and feedback throughout the learning process; provide opportunities for computer-based self-assessment; and, include the possibility that any self-assessment activity can be structured as a diagnostic aid which can then also either link to self-remedial study activities or help students to appreciate that their existing level of competence is sufficient.

13. Support students in peer and self-assessment

The simple message on which this list of key components for success concludes is that students need to be supported in their efforts to use peer and self-assessment.

Students, particularly first year students, may be regarded as lacking the requisite skills for peer or self-assessment (Gibbs, 1995). This is one reason why peer and self assessment are not more widely used in first year (Nulty, Forthcoming). Yet, it is axiomatic that students are engaged in learning. Accordingly if, as is likely, students lack such skills in the first instance (Cassidy, 2007) this serves as both a *reason* for not proceeding with peer and self-assessment, and as an *imperative* to do so (Nulty, Forthcoming). Published literature strongly suggests a developmental model is appropriate for this endeavour. For example, Cassidy's work (Cassidy, 2007) suggested that students can develop their peer and self assessment skills if appropriately supported. Similarly, van Hattum-Janssen & Lourenço (2006) have demonstrated that students peer-assessments were only less accurate than academics' assessments in relation to criteria that "require a more profound knowledge of the course material that was not embedded explicitly in the criteria" (p.689). In other words, students' skills deficits were confined to aspects of their learning which were dependent on their learning of disciplinary material which is difficult to explicitly convey through course materials or explicit enunciation of assessment criteria. This is consistent with research findings of O'Donovan et al (2004) and Rust et al (2003) who nevertheless demonstrated (over three years) that students who engaged in a simple peer-assessment workshop at the start of their program of study achieved significant improvements in performance compared with those who did not.

Conclusion

This guide has argued that students' learning can be significantly enhanced if students engage in learning behaviours that help them develop, and become part of, of professional and/or scholarly learning communities. More specifically, it advocates the deliberate and systematic use of peer and self-assessment practices through all levels of all programs of study to help students to develop an understanding and appreciation of the judgements which other qualified professional peers would make of their work – and ultimately which they learn to make of those peers and themselves. This guide cites research which has found that peer and self assessment can be effectively integrated in this way and that it brings significant benefits to students – most notably, an improvement in their ability to direct their own learning, and their own performances more generally and inter-dependent members of the professional and scholarly communities of which they are an integral part. Thirteen key components for success have been distilled from the literature to support and guide those wishing to pursue these ideas in their own practices.

Further reading and other resources

In collaboration with several academics already using peer and/or self assessment at Griffith University, the GIHE has developed a collection of case studies which illustrate ways in which peer and self assessment can be approached. These case studies span most of Griffith's disciplines, relate to large and small classes, and to both postgraduate and undergraduate teaching. Most may be applied within the context of a single course. One illustrates how peer and self assessment is integrated as a fundamental part of the learning process throughout a whole program. In addition, GIHE in collaboration with FLAS has produced an introductory guide to "SAGE" – which is a web-based tool that some readers may find helpful in

supporting peer assessment processes. This tool has been used and illustrated in one of the case studies (Nulty & Freakley, 2009). Finally, GIHE has developed a web site which lists references to selected useful research literature which is of relevance. For convenience, some of these are also listed below.

Suggested further reading

The following are recommended for succinct and easy to access introductory information about peer and self assessment:

Boud, D. (1991). *HERDSA Green Guide No 5. Implementing student self-assessment* (Second ed.). Campbelltown: The Higher Education Research and Development Society of Australasia (HERDSA).

Race, P. (2001). *A briefing on self, peer and group assessment.* Assessment Series No.9: LTSN Generic Center. Retrieved 12-12-2008, from http://internt.iha.dk/paedagogik/seminarer/Chris%20Rust/ASS009PhilRace.pdf

Race, P., Brown, S., & Smith, B. (2005). *{500 Tips} on Assessment* (2nd ed.). London: Routledge-Falmer.

References

Black, P., & William, D. (1998). Assessment and classroom learning. *Assessment in Education, 5*(1), 7-74.
Boud, D. (1991). *HERDSA Green Guide No 5. Implementing student self-assessment* (Second ed.). Campbelltown: The Higher Education Research and Development Society of Australasia (HERDSA).
Boud, D. (1995). *Enhancing Learning through Self Assessment.* London: Kogan Page.
Candy, P. C., Crebert, G., & O'Leary, J. (1994). *Developing lifelong learners through undergraduate education*. Canberra: Australian Government Publishing Service. National Board of Employment, Education and Training Commissioned Report No. 28.
Cassidy, S. (2007). Assessing 'inexperienced' students' ability to self-assess: exploring links with learning style and academic personal control. *Assessment & Evaluation in Higher Education, 32*(3), 313-330.
Elwood, J., & Klenowski, V. (2002). Creating communities of shared practice: the challenges of assessment use in learning and teaching. *Assessment & Evaluation in Higher Education, 27*, 243-256.
Gibbs, G. (1995). *Assessing student-centered courses*. Oxford: Oxford Brookes University.
Justice, D. O., & Marienau, C. (1988). Self assessment: essential skills for adult learners. In P. Hutchings & A. Wutzdorff (Eds.), *Knowing and Doing Learning Through Experience, New Directions for Teaching and Learning No. 35* (pp. 49-62). SanFrancisco, CA: Jossey-Bass.

McDonald, B., & Boud, D. (2003). The Impact of self-assessment on achievement: the effects of self-assessment training on performance in external examinations. *Assessment in Education, 10*(2), 209-220.

Nulty, D. D. (Forthcoming). Peer and Self Assessment in the First Year of University. *(Submitted to Assessment & Evaluation in Higher Education).*

Nulty, D. D., & Freakley, M. (2009). *Peer and Self Assessment in the study of Philosophy and Values in Education.* Brisbane: Griffith Institute for Higher Education, Griffith University. Retrieved

O'Donovan, B., Price, M., & Rust, C. (2004). Know what I mean? Enhancing student understanding of assessment standards and criteria. *Teaching in Higher Education, 9*(3), 325-335.

Race, P. (2001). *A briefing on self, peer and group assessment.* Assessment Series No.9: LTSN Generic Center. Retrieved 12-12-2008, from http://internt.iha.dk/paedagogik/seminarer/Chris%20Rust/ASS009PhilRace.pdf

Race, P., Brown, S., & Smith, B. (2005). *{500 Tips} on Assessment* (2nd ed.). London: Routledge-Falmer.

Rust, C., Price, M., & O'Donovan, B. (2003). Improving students' learning by developing their understanding of assessment criteria and processes. *Assessment & Evaluation in Higher Education, 28*(2), 147-164.

Sadler, D. R. (1983). Evaluation and the improvement of academic learning. *Journal of Higher Education, 54*, 60-79.

Sadler, D. R. (1987). Specifying and promulgating achievement standards. *Oxford Review of Education, 13*, 191-209.

Sadler, D. R. (2008). Indeterminacy in the use of preset criteria for assessment and grading. *Assessment & Evaluation in Higher Education, In press.*

Sweep, T. (2008). Integrity and the expanded self. Unpublished Masters Dissertation. The University of Queensland.

van Hattum-Janssen, N., & Lourenço, J. M. (2006). Explicitness of criteria in peer assessment processes for first-year engineering students. *European Journal of Engineering Education, 31*(6), 683-691.

For further information visit: www.griffith.edu.au/gihe/