

Guide to Peer-Assessment

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ACADEMIC PRACTICE

ASSESSMENT: **GUIDE TO PEER-ASSESSMENT**





This pamphlet aims to introduce formative peer assessment to academics who are considering implementing peer review in their teaching. It provides a ‘theory into practice’ approach and outlines techniques and examples for using formalised peer assessment more directly in the design of curricula and in making its use more explicit in the classroom in order to help students learn more effectively.

Introduction: Why use peer assessment?

In all walks of life, people learn from and make assessments or judgements about each other. Student learning in higher education is no different. Students learn from explaining their ideas to colleagues (peer learning) and providing feedback (that may or may not include grading) on the quality of each other’s work (peer assessment). Participation in such activities can occur both outside (informally) and inside the classroom (formally).

Opportunities for peer learning through peer assessment can be lost sight of in formal educational settings, where the role of the teacher becomes paramount (Spiller, 2012). Peer assessment is a natural extension of the move from a teacher-centred to a student-centred mode of education, which emphasises the active engagement of students in their learning, learner responsibility, metacognitive skills and a dialogical, collaborative model of teaching and learning (Spiller, 2012). Students become assessors within the context of participation in practice; that is, the kinds of highly contextualised learning faced in life and work (Boud & Falchikov, 2006).



Teaching staff are often reluctant to relinquish complete control over the feedback and assessment process, despite considerable evidence of deep student dissatisfaction with teacher-led feedback practices (Nicol et al., 2014).

Thus, there are great opportunities and advantages, in terms of understanding and engagement, to learners providing feedback on and assessing each other's work. Using and/or developing assessment criteria takes students deeper into their learning and allows for feedback and reflection on learning and the sharing of what new meaning appears.

Furthermore, if peer learning and collaboration are to be emphasised in a course or module, then assessment activities need to align with this and promote it. Peer assessment should be both appropriate and credible. In peer assessment, students make decisions about each other's work and decide what constitutes 'good work'. This can be done anonymously, randomly, individually or in a group and is an active area of research (Strijbos and Sluijsmans, 2010).

Peer assessment and the learning that emerges from it fit into social constructivist models of education (Carlile & Jordan, 2005). Therefore, the traditional individualistic concept of assessment needs to be re-addressed if student cooperation and collaboration are to be fostered. Furthermore, peer-assessment can dramatically reduce the marking load on academic staff and allow them to devote more time to other aspects of teaching and learning. It can also free up time to enable them to manage the peer assessment process itself more effectively.

What is peer learning?

If peer assessment is to be effective, then students should first become familiar with the concept of peer learning. Peer learning can be defined as '*students learning from and with each other in both formal and informal ways*' (Boud et al., 2001; p 4). It is vital to consider who the 'peers' are in peer learning.

The peers are in a similar situation as each other; they do not have power over each other through their position or responsibilities – they share the status of fellow learners, even though they arrive in the classroom with various backgrounds and levels of experience. It is important to point out that peer learning is not 'peer tutoring' or 'peer teaching' in which more advanced students teach and/or mentor more junior students.

Peer learning should be introduced, promoted, planned and managed effectively for maximum benefit. Engagement in peer learning can provide experience for the peer assessment tasks that follow (see below). Students gain key skills through engaging in activities that both prepare for peer learning and through peer learning itself (Table 1).



Table 1: Preparing for peer learning, peer learning activities and skills gained (Boud et al., 2001; p 37-46):

Preparing for peer learning should include student exposure to: working in groups; developing communication skills and active listening; presenting and explaining; preventing and dealing with conflict; problem solving; negotiation; facilitation; reflection and journal keeping; giving and receiving feedback; self and peer assessment.

Peer learning activities: *Learning partnerships & study groups* – one to one or small group discussions in which students support each other’s learning; *Working-progress reports* - individuals or groups working together on a project or assignment, followed by questions and answers and discussions; *Seminar presentations/learning exchanges* - formal student presentations to peers in small groups or pairs related to a shared project or assignment; *Student-led workshops* - students work together to plan and conduct a workshop or ‘microteaching’ session for their colleagues; *Debriefing sessions* - in pairs, small groups or larger plenary sessions following a field placement, industrial visit or work experience programme.

Skills gained from peer learning include: ability to work with others; critical inquiry and reflection; communication and articulation of knowledge and understanding; managing learning and how to learn; ‘exploration and the sense of discover’ (Boud et al., 2001; p 12), development of research skills (learning is research, research is learning).

Peer learning is best designed as a core constituent of the course/module and should not be seen as an ‘add on’. Design features that are important for peer learning include, but are not limited to: appropriate context, consideration of general goals and learning outcomes; constructive alignment between peer learning strategies and assessment tasks and consideration of resource implications.

There are also considerations regarding implementation of peer learning: preparation of both students and staff for working with particular peer learning strategies, continuing roles and responsibilities; managing the process and the introduction, support and evaluation of the process. Student attitudes towards peer assessment are positively influenced by the training they receive and experience that they have in prior peer learning (van Zundert et al., 2010).



Peer learning and assessment

Peer learning is closely aligned with peer assessment, since during the process of assessing, reviewing and feeding back on each other's work, students are also learning from and with each other – *this is assessment for learning NOT assessment of learning*. Several types of peer assessment exist, such as grading a peer's research report, providing qualitative feedback on a classmate's presentation, or evaluating a fellow trainee's professional task performance (van Zundert *et al.*, 2010).

For example, draft assignments could be first marked or commented on by fellow students and then the mark or comments discussed in pairs or small groups followed by a wider discussion and reflections. The feedback provided could be formative or summative, though it is very important that clear rubrics are developed and discussed with students in the latter case.

Summative assessment is challenging with students who may not feel comfortable marking the work of their peers (see further discussion of issues related to effective peer assessment below).

The peer assessment could also be carried out anonymously - both assessor and assessee could be anonymous (Li *et al.*, 2010) to reduce student discomfort. It can also be repeated multiple times during the module or course, so as to develop student experience and to build in an element of inter-subjectivity, which makes the marking more objective.

The marking is of course overseen by the lecturer and moderated appropriately. In giving and receiving feedback and in evaluating and reflecting on their learning, students learn how to learn and get into the habit of 'thinking about their thinking' (metacognition; De Baker *et al.*, 2012). The capacity to provide quality feedback is a fundamental graduate skill and should receive much greater attention in the Higher Education curriculum (Nicol *et al.*, 2014).

What issues need to be considered by both lecturers and students for effective peer assessment?

Successful peer learning and assessment requires both effective implementation and management. It should be a purposeful and systematic approach integrated into course/module design. The effectiveness of these approaches needs to be monitored through reflecting on the process and the outcomes by both students and academic staff.



Where learning is seen by students as a competitive and individual activity, the introduction of peer assessment strategies can be more difficult. Where students have developed prior strategies that work for them as individuals, it is likely that they will find adapting to peer assessment more difficult and uncomfortable and create or feel resistance towards it. Students' prior experience of peer learning is therefore an important consideration. Balancing content with time devoted to peer assessment is important. Students need to see that peer assessment is not diminishing the importance of course content, but is a means to enable them to engage with the material more effectively.

For staff, implementing peer assessment strategies also means wrestling with personal and professional change; e.g. from a lecturer-directed and controlled teaching style to student negotiated and managed learning.

Staff should spend time preparing resource material for students that explains the rationale for the different approaches to peer learning and assessment. Guidelines can be provided for students that enable engagement in these activities, such as information on working in groups, managing learning tasks, dealing with group conflict and suggested strategies for student reflection on their own learning and how to monitor and evaluate their own progress.

There is an increasing understanding of the gap that exists between feedback given to students and feedback actually used by students (Cartney, 2010). Peer assessment can act as a 'vehicle' to enable students to make better use of feedback they receive (Case Study 1).

Case Study 1: Exploring the use of peer assessment as a vehicle for closing the gap between feedback given and feedback used (Cartney, 2010).

- 45 students in total divided into 9 'home groups' of 5;
- A workshop provided on giving and receiving feedback;
- Discussions of anonymous example essays and tutor feedback;
- Discussions of marking sheet and grading criteria – demystifying the assessment processes;
- Key areas for feedback discussed and the overall purpose of the exercise highlighted;
- Reading each other's work to gain ideas about structure, making arguments, using references properly;
- Each student in each 'home group' asked to provide feedback on draft essays of others in the group;
- Essays then revised and submitted for summative assessment of the module.

Staff should also facilitate discussions with and between students about what peer feedback and assessment means to them. This is the process of providing a rationale for peer learning and assessment that can be justified to students and providing desirable conditions to foster it (Table 2).



Table 2: Desirable conditions for fostering peer learning (Boud et al., 2001; p55):

- considering and highlighting knowledge and experience;
- emphasising value in cooperation and the roles involved;
- establishing trust;
- discussing student and staff expectations;
- agreeing on the process;
- encouraging reflection and reflective discussions;
- making mistakes and seeking assistance is OK;
- discussing and acknowledging previous negative (and positive) experiences with similar activities;
- providing and considering practical suggestions for how to change attitudes;
- addressing issues of 'difference' e.g. gender, local vs overseas students, culture and religion,
- students need to accept each other as true peers for peer learning and assessment to be effective.

How does peer learning relate to formative and summative assessment?

Assessment is the most important driver for learning and it has pronounced effects on learning (Table 3).

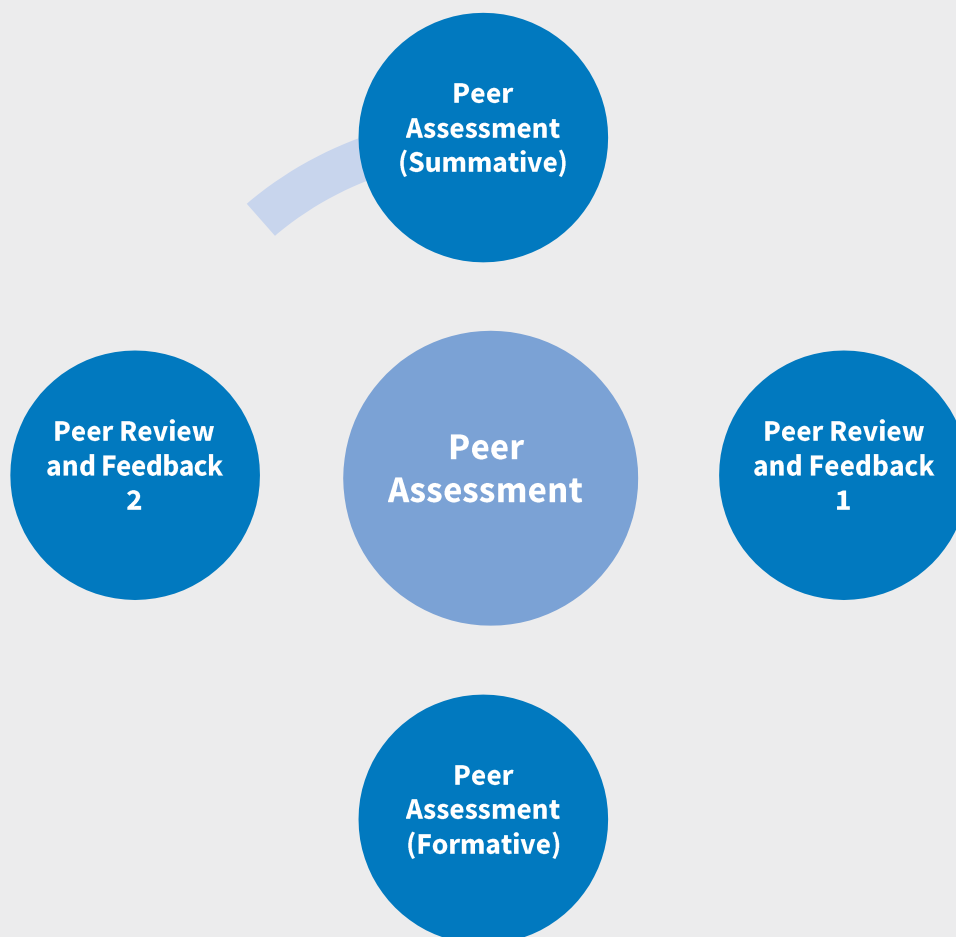
Table 3: The effects of assessment on learning generally (Boud et al., 2001; p70-72):

- The individual is emphasised (assessment is usually framed to de-emphasise collaboration);
- Assessment exercises power and control over students (learning becomes confined to the range of outcomes pre-defined by staff);
- Assessment exerts a 'backwash' effect on learning (students comply to the narrowest interpretation of the assessment task and work to 'beat the system');
- Overload of tasks discourages deep learning (deep learning tasks must be integrated into teaching and learning not 'add ons');
- Assessment practices should be matched to outcomes (in terms of the basic knowledge, understanding, communicative and competency aims being pursued in a module/course);
- Formal assessment processes should encourage self-assessment of learning (the balancing act between summative assessment as judgement versus formative assessment for learning).

Assessment makes explicit to students the value of peer learning as an educational approach and it recognises the effort and commitment required to participate in it. However, the very nature of peer learning makes assessment challenging. Assessment may have the effect of encouraging focus on the grades (the outcome) rather than the formative process of students reviewing each other's work and giving and reflecting on feedback.

Peer assessment should encourage students to engage with the material more actively, rather than having a detrimental effect, such as encouraging conformity in return for grades. Peer assessment should be designed to enhance deep learning through rounds of review and feedback (Figure 1).

Figure 1: Peer assessment is facilitated by rounds of student review and feedback.



Peer assessment can be facilitated through the use of students providing written feedback on each other's work. An effective strategy is to do this online through a virtual learning environment.

For example, Liang and Tsai (2010) used an online peer assessment activity to help students learn biology and improve each other's science writing skills (Case Study 2).



Case Study 2: Learning through Science writing via online peer assessment in a college biology course (Liang and Tsai, 2010):

- Biology written report submitted online;
- Self, peer and expert evaluation of the report obtained in three rounds;
- Peer assessment scores demonstrated adequate validity with the expert scores;
- The more rounds of feedback the better in terms of improving writing;
- Content analysis of writing demonstrated significantly better coverage, richness and organisation resulting from the online peer assessment activity.

In peer assessment of writing, students have more chances to get and/or provide feedback than they have when confined to reviewing only their own writing (Trautmann, 2009).

Furthermore, the timing of peer review (preferably early in the module/course) is important to avoid procrastination and ‘binge writing’ (Baker, 2016). Students learn how to write their own reports, but also learn more from evaluating each other’s writing, which supplies more ideas about how to modify their own writing. Students benefit from playing the role of assessor for their peers, and also gain feedback about their strengths and weaknesses from their peers in such activities. A combination of both written and oral feedback has been shown to be most effective in peer assessment of writing (van den Berg et al., 2006).

Some examples of why peer assessment is a useful approach are outlined in Table 4.

Table 4: Why use peer assessment? (adapted from Spiller (2012) and Bostock)

- builds on a natural process of development from early life (learning from others);
- encourages collaborative learning through consideration of what constitutes ‘good work’ and promotes development and improvement;
- aligns with and supports tasks encouraging peer learning and collaboration (i.e. assessment should motivate students to partake in these activities and have a ‘sense of ownership’ of the assessment process);
- students gain a more sophisticated understanding of the gaps in their learning and gain a better grasp of the learning process;
- enhances conversation around the assessment process;
- promotes student writing skills, including clarification, reviewing and editing;
- heightens the capacity for judgement and making intellectual choices;
- reduces the power imbalance between teacher and students;
- promotes ability of students to give and receive feedback, an important part of work contexts;
- students become active participants in a ‘community of practice’ and gain an identity within this community;
- emphasises that assessment is part of learning (mistakes are opportunities rather than failures).



Potential Problems with Peer Assessment

- Concerns about quality in terms of effectiveness, acceptability, fairness, validity, reliability, accuracy and value of student assessments (Bostock; Gielen *et al.*, 2011) can be overcome by:
 - developing clear marking criteria (developed and discussed with students if possible) that are aligned with the learning outcomes;
 - providing some training in assessment;
 - using double anonymity of assessors and assesses (Lan, 2016);
 - having multiple assessors for each piece of work;
 - moderation of student assessments by a tutor.
- Feedback to students alone is insufficient to promote learning (Cartney, 2010):
 - the concept of 'feed-forward' may be more useful in promoting learning; ie making explicit to students the gains to be had from reflecting and acting upon feedback – this is also called 'future learning' (Thomas *et al.*, 2011).
 - students should be included in the 'assessment dialogue' as there are many tacit assumptions that staff make in marking student work, which are not obvious to students who perceive it as part of a 'hidden curriculum'.

Some simple ideas to implement peer assessment

Exchange notes during the class: students look for perceived gaps and differences in understanding

Draft assessment shared and questions developed – ensuing discussion enhances learning through exploration of the questions

Online peer assessment of student writing – students post their essay online then receive feedback from peers and revise (Case Study 1)

Peer editing and feedback on a draft of an assessment shared in small groups, criteria for feedback provided or previously developed (Case Study 2)



Thoughts on Feedback (Nicol *et al.*, 2014)

“Feedback should be conceptualised as a dialogue rather than a one way transmission process.”

“We must move beyond a view of feedback as transmission and acknowledge the active role that students must play in such processes.”





Summary

This pamphlet has introduced formative and summative peer assessment to academics who are considering implementing peer review in their teaching. It provides a ‘theory into practice’ approach and outlines techniques and provides examples for using formalised peer assessment more directly in the design of curricula. It makes its use more explicit in the classroom in order to help students learn more effectively.

There are great opportunities and advantages for learners in providing feedback on and assessing each other’s work. Using and/or helping develop assessment criteria takes students deeper into their learning and enables feedback and reflection on learning and the sharing of the new meaning that appears.

In peer assessment (formative or summative), students make decisions about each other’s work and decide what constitutes ‘good work’. Peer assessment highlights to students the value of peer learning as an educational approach and recognises the effort and commitment required to participate in it.

Peer assessment is a natural extension of the move from a teacher-centred to a student-centred model of education, which emphasises the active engagement of students in their learning, learner responsibility, metacognitive skills and a dialogical, collaborative model of teaching and learning.

It is important that teaching staff consider how they might relinquish some control over the feedback and assessment process to facilitate student learning.

Peer-assessment can dramatically reduce the marking load on academic staff and allow them to devote their time to other aspects of teaching and learning. It can also free up time to enable them to manage the peer assessment process itself more effectively. Successful peer learning and assessment requires both effective implementation and management. It should be a purposeful and systematic approach integrated into course/module design that supports student learning and skill development.



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