Exploiting the collaborative potential of technology enhanced assessment in higher education

Q: How can digital technologies enhance peer assessment in higher education?

Q: What are the key challenges for technology enhanced peer assessment?

This paper considers the following aspects of technology enhanced peer assessment:

- The rise of peer assessment in higher education
- Benefits and challenges of peer assessment
- Peer assessment using technology
- Peer assessment and disciplinary cultures

Key recommendations

- Policy makers and practitioners should acknowledge the importance of peer collaboration and networks for learning and recognise that learning is social, distributed and collective.

- Successful peer assessment requires individual responsibility from students, interdependence on peers, and trust within groups. Practitioners should recognise that students can be anxious about the ability of their peers to assess learning, their own abilities to assess others’ work and the overall validity of peer assessment.

- Digital technologies have the potential to support collaborative learning and assessment practices, such as undertaking knowledge building activities, co-evaluation and social interaction.
The rise of peer assessment in higher education

Peer assessment techniques vary greatly across institutions and among different HE disciplines. Likewise, the many advantages that peer assessment can offer range from positive impacts on the quality of learning processes and outcomes, improved social interaction and enhancement of metacognitive skills. Specific notable benefits include:

- Developing critical reflection skills and deeper understanding of course content and assignment criteria
- Enhancing the quality of learning and ownership over one’s own work
- Improving students’ performance in areas as writing
- Increasing students’ enjoyment of learning
- Decentralising the locus of control on assessment and moving the focus of power and judgment closer to the students.

However, the practices of peer assessment also bring their own challenges. Peer assessment often uses questionnaires or numerical scales to rank, nominate or rate peer performances. Such techniques can provoke adverse reactions from students or be seen as biased, for example in ‘overmarking’ (also known as ‘friendship marking’) or ‘deciding marking’ (the dominant voices in a group get the highest marks).  

Recorded student perceptions of peer assessment also demonstrate that peer assessment invokes emotional challenges. Successful peer assessment requires individuals responsible from students, interdependence on peers, and trust within groups. Despite evidence that peer marks on average agree with teacher marks, students can express anxiety about the ability of their peers to assess learning, their own abilities to assess others’ work and the overall validity of peer assessment. Such findings illustrate that peer assessment is a complex skill that requires training and support for students, both in giving feedback and in receiving and managing evaluations of their own work.

Lastly, HE institutions may not recognise the benefits of peer interaction, whose processes also do not integrate well with HE cultural norms that emphasise individualism, responsibility from students, interdependence on peers, and trust within groups. Despite the current emphasis on the development of higher order thinking skills in learners, the rise of peer assessment in higher education is a complex form of assessment that can support a wide range of learning outcomes.

Peer assessment practices and disciplinary cultures

Peer assessment techniques are derived from developments in social learning theories and current understandings of feedback processes, they remain relatively uncommon in higher education. This is due to a number of factors across HE environments. At a classroom level, assessment of collaborative learning is poorly understood and evaluation still primarily involves teachers or lecturers controlling tasks and assessment. At a wider institutional level, peer interaction and learning in communities often takes a back seat to the priorities of personification and individual learning. Peer assessment challenges these patterns through its involvement and ownership of tasks by students.

In order to facilitate a broader adoption of peer assessment practices, a wider cultural shift in HE assessment is required. In line with prevailing learning theories, assessment practices should challenge the current emphasis on individual learning and promote collaboration. This ultimately requires a deeper institutional understanding of and commitment to the benefits of peer learning and assessment, as demonstrated through policies and supported practices.

To support such a shift, peer assessment practices and experiences should be more visible and widely shared among educators. This would clarify peer assessment’s benefits, elucidate the methods that elicit these advantages and share the required time investment to make peer assessment happen. This is particularly important to consider across disciplines, due to the diversity of the ‘ways of thinking and practicing’ that manifest in different HE disciplinary cultures.
Rethinking Assessment
2012/2013 Series of discussion papers

3. Exploiting the collaborative potential of technology enhanced assessment in higher education

Assessment is universally recognised as one of the most important – and powerful – elements of an educational experience. It is also seen as one of the hardest to reform. However, there is an increasingly accepted need for rethinking assessment if it is to keep up with current theoretical, cultural and technological developments affecting teaching and learning.

Digital technologies open up new possibilities for more personalised, immediate and engaging assessment experiences. However, the use of digital technologies for assessment (referred to as ‘technology-enhanced assessment’) has yet to be ‘transformative’, with current practices either replicating traditional assessment methods or manifesting in pockets of innovation that are not widespread.

How the potential of digital technologies can best support improved assessment practices and preferred educational outcomes is becoming an issue of increasing importance. An acknowledgement of the potential that digital technologies offer should recognise the complexity of the task, the many factors affecting successful educational change, and the significant ethical questions raised by the use of digital technologies in assessment.

This series of discussion papers draw on a substantial review of literature which aimed to identify the different ways in which technology currently impacts on educational assessment practices and how it could contribute to a new vision for assessment.

The review of literature is available at: bristol.ac.uk/education/research/sites/tea

The following discussion papers have been produced in order to highlight key issues and questions identified by the review of literature:

Paper 1: Transforming education through technology enhanced assessment
Paper 2: Integrating the formative and summative through technology enhanced assessment
Paper 3: Exploiting the collaborative potential of technology enhanced assessment in Higher Education
Paper 4: Learning analytics and technology enhanced assessment
Paper 5: Ethical issues in technology enhanced assessment
Paper 6: National standards and technology enhanced assessment

Series authors:
Patricia Broadfoot, Sue Timmis, Sarah Payton, Alison Oldfield, Rosamund Sutherland
For further information contact Sue Timmis at Sue.timmis@bristol.ac.uk