Peer based formative assessment using a personal learning environment

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Abstract
During the last decade governments worldwide have sought to widen access to higher education and to create reflective, self-regulated lifelong learners who are supported by assessment strategies designed to enhance both student attainment and the student experience.

The action research project discussed in this paper describes a radical course re-design in which a personal learning environment (Pebblepad) was utilised to support the introduction of peer-based formative assessment, supported by tutor feedback and mediation to students in the first year of a BEd (Honours) Degree. The project was successful in raising student attainment and in attracting funding from the Re-Engineering Assessment Practices in Higher Education Project (REAP), funded by the Scottish Executive.

Action research was considered to be the most appropriate methodology due to its effectiveness in supporting change in practitioner settings. A mixed-method approach to data collection allowed both quantitative and qualitative data to be collected and analysed. Analysis of summative final exam results found that average scores had risen by 11% overall and 89% of students reported that engagement in collaborative tasks aided development of personal skills of reflection.

Introduction

The action research project discussed in this paper was implemented in an Educational Studies Module during the first year of a 4 year degree course leading to the award of a BEd (Honours) Degree. Each year over 160 students enrol on the course with the aim of becoming primary/elementary school teachers in Scotland. The module discussed here is a compulsory part of the first year course and aims to develop in students some theoretical understanding of the many factors which impact on the development of individual learners and invites these future teachers to reflect on their role in the learning process. Feedback in student course evaluations identified the course as being “difficult” and feedback from staff identified a problem with lack of engagement with course content and a resulting disappointing quality of student
work. Recent government initiatives regarding the role of assessment in higher education also prompted a re-consideration of the whole design of the module.

During the last decade governments in many countries have attempted to widen access to higher education. In the United Kingdom, the National Committee of Inquiry into Higher Education, in its strategic policy report “Higher Education in the Learning Society (the Dearing Report)”, (HMSO, 1997), provided detailed recommendations on how higher education might be re-structured to meet the needs of students. Amongst the 93 recommendations offered, were those advising higher education institutions (HEIs) to:

- Widen participation in higher education;
- Develop a mechanism for monitoring progress;
- Develop and implement new learning and teaching strategies to promote student learning;
- Review the changing role of staff with regards to Information and Communications Technology (ICT) and to provide staff and students with the training necessary to use ICT effectively;
- Promote the development of computer-based learning materials;
- Develop a personal progress file for each student.

Alongside developments in the areas above and the other recommendations of the Dearing Report, HEIs have striven to address the demands placed on them to reduce staff and student workloads; to create independent, self-regulated learners who participate in deep, not surface, learning; and to develop alternative methods of assessment. It is to this final point that we now turn our attention.

In recent years, the role of assessment in promoting effective learning and as a tool for measurement of the same has been the subject of considerable debate in higher education (Ramsden, 1997). The debate regarding the impact of different forms of assessment on student learning continues (e.g. Crooks, 1998; Gibbs, 1999; Maclellan, 2004). One alternative approach which has attracted some interest has been the introduction of formative assessment strategies into higher education. Formative assessment is characterised as a process of “assessment for learning” (Black & William, 1998) rather than assessment of learning. These new methods of assessment call for what Sadler (1998) has termed a change in ‘the learning culture’. This ‘turning the learning culture around’ has been slow to reach the higher education sector, but recent developments would seem to indicate that a change of direction is beginning to take hold (e.g. Boud, 2000; Biggs, 2003; Gibbs and Simpson, 2004; Gibbs, 2006; Nicol & Macfarlane-Dick, 2006; Nicol, 2007; Boud & Falchikov 2007).

In Scotland, recent research into the use of formative assessment in higher education came under the umbrella of the Re-Engineering Assessment Practices in Higher Education Project (REAP), a national research project financed by the Scottish Higher Education Funding Council which provided funding for the action research project reported here. It is against this backdrop that the intervention described in this paper took place.

**Method**

Early in planning, it was agreed that action research was the most appropriate design due to its ability to support a process of change in which researchers would be active...
participants. The project would also be subjected to on-going development throughout its implementation.

The merits of action research as a method of improvement and involvement in educational settings have long been recognised. Robson (2002) highlights the emancipatory nature of its purpose:

‘… It adds the promotion of change to the traditional research purposes of description, understanding and explanation …’ (Robson, 2002, p. 214).

Due to this underlying purpose, many of the best known action researchers in education have been practitioners in that context, or have been professional researchers supporting practitioners who wish to initiate change in the setting in which they work. Latterly, researchers have commented on the ability of action research to improve practitioners’ practice and learning (McNiff & Whitehead, 2003; Somekh, 2006).

A mixed-method approach to data collection allowed both quantitative and qualitative data to be collected and subsequently analysed. Data on perceptions of in-module assessment was gathered by means of a questionnaire issued at the end-point of the course. Previously evaluation of the module was carried out using a questionnaire, issued to all students, following the final summative exam. This process was repeated, but during the action research project, was implemented in class time, three weeks before the exam.

Whilst it is recognised that data yielded by means of a questionnaire may be superficial in nature, the questionnaire used in the study was perceived as an efficient use of student and staff time and, being completed anonymously, was deemed likely to allow for collection of reliable data. An enlarged version of the questionnaire from previous years was used in order that some comparisons might be made. Apart from the final question which required an open response, the 45 items in the questionnaire were arranged in 6 variables: personal details (4 items – individual identification number, age, gender, tutor group), the personal learning environment (PLE) (10 items), feedback (6 items), core tasks (6 items), assessment (5 items) and learning and teaching (13 items). The final question invited students to comment on their personal experience of the module. Many of these comments centred on issues surrounding group work. All items incorporated into the questionnaire were selected from a range of issues reported in the literature.

The questionnaire was completed during class time and a return rate of 72% (N = 115) was achieved. A 5-point itemised rating scale of ‘Strongly agree’, ‘Agree’, ‘Neutral’, ‘Disagree’, ‘Strongly Disagree’ was used for collecting responses which were later coded numerically, 1 = ‘Strongly Agree’ to 5 = ‘Strongly Disagree’, and entered into SPSS. The data was then subjected to descriptive statistical analysis, in which simple frequencies of response were examined, by a member of the research team.

It is recognized also that, although “… course evaluations remain the primary method used in higher education to gauge how effectively courses are taught … “(Remedios & Lieberman, 2008), questions have arisen as to the validity of using ratings to
evaluate course effectiveness (D’Apollonia & Abrami, 1997; Greenwald & Gilmore, 1997). Concerns regarding respondent bias as a result of grading (Olivares, 2001); workload (Griffin, 2004); and student expectations (Remedios et al., 2000) have been highlighted, as have suggestions that such factors have little or negligible effect on course evaluations and therefore may provide a valuable insight into course effectiveness (Marsh & Roche, 2000). In the action research project discussed in this paper, it was decided that course evaluation questionnaires could provide valid data as conclusions drawn from this would be supported by independent analyses carried out by REAP evaluators who issued a separate questionnaire and who conducted focus group interviews with student representatives in the final semester. The research team acknowledges the support afforded them by the REAP evaluators who shared preliminary findings with them – findings which appeared to substantiate the conclusions made by the research team.

Results

Summary of Questionnaire Findings

The main purpose of the study was to monitor the impact of a new peer-based formative assessment strategy which aimed to enhance the learning experience of the students and promote the development in them of complementary skills of reflection and self-regulation. This process was supported by a complete re-design of the module structure and innovative use of a personal learning environment, ‘Pebblepad’. Pebblepad was used as the medium to underpin radical changes in the learning environment; to promote peer interaction and collaboration; to facilitate self- and peer-based formative assessment; to support the delivery of timely feedback to students and, finally, to contribute to a reduction in workload for staff. In each of the tables below the number of respondents is 115 (N= 115) and all responses are reported as percentages rounded to the nearest whole number.
Table 1 Learning and Teaching

<table>
<thead>
<tr>
<th>Learning and teaching</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The learning outcomes of the module have been achieved</td>
<td>1</td>
<td>46</td>
<td>46</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>The balance of learning and teaching methods was appropriate</td>
<td>4</td>
<td>43</td>
<td>33</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>The sequence of the module was consistent and coherent</td>
<td>9</td>
<td>47</td>
<td>24</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>The pace of teaching was acceptable</td>
<td>4</td>
<td>53</td>
<td>22</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>The workload for the module was appropriate</td>
<td>2</td>
<td>38</td>
<td>20</td>
<td>25</td>
<td>13</td>
</tr>
<tr>
<td>The level of challenge in the module was pitched correctly</td>
<td>6</td>
<td>42</td>
<td>28</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>It was possible to relate the module to my course</td>
<td>9</td>
<td>39</td>
<td>28</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>The module provided a good insight to the subject</td>
<td>14</td>
<td>56</td>
<td>22</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Reading the textbook Cole, Cole and Lightfoot (2005) <em>The Development of Children</em> helped my learning</td>
<td>5</td>
<td>12</td>
<td>12</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>Reading the textbook Maclean, A. (2003) <em>The Motivated School</em> helped my learning</td>
<td>18</td>
<td>49</td>
<td>20</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>The module was well prepared and organised</td>
<td>7</td>
<td>45</td>
<td>25</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>The module leader(s) gave effective support and guidance to promote my learning</td>
<td>16</td>
<td>49</td>
<td>24</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>My tutor was approachable and helpful</td>
<td>37</td>
<td>33</td>
<td>16</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

Overall learning and teaching processes on the module were regarded as appropriate and effective by students. Only 7% of students ‘Disagreed’ or ‘Strongly Disagreed’ with the view that the learning outcomes of the module had been achieved and 47% felt that the balance of learning and teaching methods was appropriate. Comments regarding the pace, level of challenge and effectiveness of the module in providing insight to the topic were all positive. It is unclear whether the 38% of students who ‘Disagreed’ or ‘Strongly Disagreed’ with the comment that the workload for the module was appropriate believed that the workload was too heavy or too light.
Table 2 Effectiveness of Pebblepad

<table>
<thead>
<tr>
<th>Pebblepad use</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have difficulty in learning new software</td>
<td>1</td>
<td>5</td>
<td>15</td>
<td>61</td>
<td>19</td>
</tr>
<tr>
<td>There was sufficient help &amp; guidance to use the Pebblepad technology</td>
<td>7</td>
<td>50</td>
<td>29</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>I found it easy to find my way around Pebblepad</td>
<td>17</td>
<td>59</td>
<td>18</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>I found working with Pebblepad an enjoyable experience</td>
<td>0</td>
<td>7</td>
<td>24</td>
<td>39</td>
<td>27</td>
</tr>
<tr>
<td>I wrote things in Pebblepad that I wouldn’t want others to see</td>
<td>3</td>
<td>10</td>
<td>10</td>
<td>52</td>
<td>24</td>
</tr>
<tr>
<td>Pebblepad contributed to the learning aims of this course</td>
<td>1</td>
<td>18</td>
<td>30</td>
<td>33</td>
<td>18</td>
</tr>
<tr>
<td>The same objectives could have been achieved in this module without the use of Pebblepad.</td>
<td>39</td>
<td>41</td>
<td>12</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>All student work in Pebblepad should be made available for teacher feedback</td>
<td>15</td>
<td>23</td>
<td>20</td>
<td>28</td>
<td>15</td>
</tr>
<tr>
<td>Pebblepad helped me to work from different locations</td>
<td>12</td>
<td>40</td>
<td>23</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Pebblepad helped me manage my own files/resources</td>
<td>5</td>
<td>18</td>
<td>30</td>
<td>35</td>
<td>12</td>
</tr>
<tr>
<td>Pebblepad helped support groups working in this module</td>
<td>10</td>
<td>31</td>
<td>31</td>
<td>16</td>
<td>12</td>
</tr>
</tbody>
</table>

Views regarding the effectiveness of Pebblepad were mixed. It is disappointing that only 7% of students found working with Pebblepad an ‘enjoyable’ experience. 80% of respondents ‘Disagreed’ or ‘Strongly Disagreed’ that they had difficulty in learning new software, which would imply that the medium itself posed few problems, but evidence from focus groups carried out by REAP evaluators and open responses in the questionnaire reported some disquiet, the reasons for which remain unknown. It is encouraging that all subgroups managed to submit core task responses effectively and that only 28% of respondents did not believe that the same objectives could have been achieved without the use of Pebblepad. Ubiquitous access to Pebblepad was considered helpful and the PLE thought to be effective in supporting group work. Students were comfortable sharing their thoughts in Pebblepad, with only 13% saying that they wrote things in Pebblepad they would not want others to see. It could be postulated, perhaps, that the growth of social networking sites has facilitated online sharing of views on a wide range of topics.
Table 3 Effectiveness of Core Tasks

<table>
<thead>
<tr>
<th>Core tasks</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The group tasks supported my learning</td>
<td>17</td>
<td>53</td>
<td>16</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>The individual task work supported my learning</td>
<td>11</td>
<td>64</td>
<td>19</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>All students in my subgroup contributed work to the group tasks</td>
<td>24</td>
<td>24</td>
<td>7</td>
<td>28</td>
<td>18</td>
</tr>
<tr>
<td>Teachers should monitor group work activities</td>
<td>29</td>
<td>43</td>
<td>19</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>The module should have more individual tasks</td>
<td>19</td>
<td>28</td>
<td>29</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>Marks should be awarded for individual contributions to group tasks</td>
<td>23</td>
<td>42</td>
<td>12</td>
<td>20</td>
<td>3</td>
</tr>
</tbody>
</table>

The effectiveness of core tasks in promoting learning was acknowledged. 70% of students ‘Strongly Agreed or ‘Agreed’ that the group tasks supported their learning and 75% believed that individual task work supported it. There were some concerns, reported in open comments recorded in the final section of the questionnaire, that some students were not “pulling their weight”. Accordingly 65% of respondents requested that marks for individual contributions to group tasks be awarded.

Table 4 Attitudes to feedback

<table>
<thead>
<tr>
<th>Feedback</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I found the written feedback from tutors helpful</td>
<td>12</td>
<td>50</td>
<td>17</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>I found the spoken feedback from tutors helpful</td>
<td>24</td>
<td>48</td>
<td>14</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>I got feedback from peers in this module</td>
<td>13</td>
<td>54</td>
<td>19</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>I found the feedback from peers helpful</td>
<td>16</td>
<td>51</td>
<td>24</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>I received sufficient feedback from the teacher on this module</td>
<td>2</td>
<td>30</td>
<td>25</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>The group feedback I received was relevant to my own work</td>
<td>4</td>
<td>46</td>
<td>26</td>
<td>17</td>
<td>5</td>
</tr>
</tbody>
</table>

Feedback from peers was received by 67% of respondents, 68% of whom found this feedback helpful. Only 8% of students disagreed with the view that peer feedback was helpful and 50% found the group feedback relevant to their own work. Whilst this
Responses to the comment regarding the appropriateness of the method or assessment are disappointing, with only 41% of students “Strongly Agreeing” or “Agreeing” that the method used was appropriate. Comments in open responses appeared to indicate that students favoured a more “traditional” approach, with greater preparation for the final summative exam being included in the module programme. However, scores in the final summative exam appear to belie this approach and had these scores been known at the time of completion of the questionnaire, responses may have been more positive. Core tasks as a method of enhancing understanding of course materials was considered effective, with 78% of students “Strongly Agreeing” or “Agreeing” that the tasks built on lecture material.

**Discussion**

*Learning and teaching*

This action research project prompted a complete re-design of the module structure. In previous years the module followed a more “traditional” approach. The programme comprised a series of twenty lectures, followed by twenty tutor-led tutorials. Each tutorial group comprised twenty five students who submitted a personal portfolio to tutors for formative assessment at a mid-point in the course. Final summative assessment took the form of a written exam which took place at the end of the course and required each student to complete fifty multiple choice questions and to submit personal responses to three short essay questions from a selection of five.

Under the new format, each tutor group was sub-divided into small sub-groups comprising no more than five students per group. These sub-groups worked collaboratively on core tasks submitted at intervals during the year. The final core task, which was prepared collaboratively, “fed-in” to the final summative exam which comprised fifty multiple choice questions and an individual response to the final core task.

Apart from modifying the organisational structure of the course, the team introduced an innovative learning design based on use of formative assessment to support
development of reflection and self-regulation and to allow this to be used as an integral part of the learning process itself. Increasing evidence from literature supported this approach (Boud, 1995; Black & William, 1998; Brew, 1999; Falchikov, 2001; Gibbs & Simpson, 2004; Nicol & Milligan, 2006; Nicol, 2007).

Under the new design, course content was scrutinised and five natural breaks, occurring at the end of each small sequence of lectures on a particular issue, were identified. Five “Core Tasks”, designed to monitor understanding of each lecture sequence and to signify the achievement of a resulting “Learning Milestone” were created by the lecturers who delivered the lectures. Formative assessment focussed on this series of five core tasks and allowed an incremental increase in the demands placed on students. Students were assisted to develop critical skills and complementary skills of reflection and self-regulation through consideration of the differing theoretical perspectives on learners and learning presented. This learning was enhanced by the peer-feedback process.

To maximise effectiveness of tutor feedback and to facilitate considerable savings in staff time, feedback was provided to only one sub-group in a tutor’s class following each core task submission. Students were then invited to participate in further analysis and interpretation of both the submission and its tutor feedback to encourage development of professional reflective skills.

Pebblepad PLE
A commercially-produced e-portfolio system, “Pebblepad”, was adopted as the medium for the formative assessment strategy to be implemented. As this was already available in other parts of the course, its adoption also presented an ideal opportunity for students to make links more easily between different modules.

Despite only 7% of students expressing the view that working with Pebblepad was “an enjoyable experience”, responses overall indicate that the PLE was effective in supporting student learning in a variety of ways. Use of the PLE to scaffold submission of responses to core tasks allowed students to assume control of elements of the learning process. Students were encouraged to consider how they should:

- set and move towards their own learning goals;
- formulate a plan to achieve these;
- manage resources, including time and effort;
- react to external feedback;
- produce evidence of the efficiency of this process in their output.

The students were required to be active participants in their own learning, constructing their own meaning and knowledge. Under this system students were provided with information about success or failure in comparison with other students and were considered to have completed core tasks effectively only after they had commented on feedback and had re-visited submissions to rewrite, or edit, them. Ubiquitous access to the PLE supported this process and allowed students to construct their own learning.

Core tasks
In order to complete a core task, students were required to engage with a research article related to the topic under examination in each short sequence of lectures. The
articles were selected by module lecturers and were chosen to promote understanding of a particular issue relevant to the students’ professional development as teachers. Details of core tasks were released to students four weeks before the submission date for the completed sub-group response. Students were invited to read each article and to post their personal reflections on it in the PLE. Sub-group peers offered feedback on individual responses and then collaborated to create a synthesis response which was posted in the PLE as a group submission by a leader nominated by the sub-group. The role of leader rotated throughout the year, with each sub-group member assuming this role once. Each synthesis response had to be posted in the PLE by midnight on a date specified at the beginning of the year. Once the group response was posted, the tutor offered formative written feedback to the selected group within a one-week period. At this point the response and its accompanying feedback were shared, within the PLE, by the whole tutor group.

Feedback
Through participation in the process described above students were able to identify areas of difficulty for peers and were able to offer supplementary, often contrasting, views of the issue under consideration. Feedback was offered quickly and descriptively in a process, similar to the dialogic process advocated by Lunsford (1997). The ability of students to offer good quality feedback to peers has been the subject of considerable debate in recent years, however a growing body of research supports the view that students develop deep rather than surface learning through engagement in a process whereby they are encouraged to “close the loop” in the “task-performance-feedback cycle”, i.e. by re-examining their work after feedback before moving on to the next task (e.g. Boud, 2000; Nicol & MacFarlane-Dick, 2006). In this project, students valued the feedback offered by peers and, through submission of a group synthesis response, were given the opportunity to re-submit, albeit in an altered form.

Nevertheless, there are significant anomalies. 72% reported that collaborative working enhanced their learning, however, in spite of 68% of respondents finding peer feedback helpful, only 51% found group feedback, offered by tutors, relevant to their own work! This would seem to imply that the students themselves assumed the role of tutors for each other and were perceived as effective in that role by peers.

Assessment
Nicol (2007) detailed ten principles of good assessment and feedback, analysed over two dimensions. These principles and those outlined by Laurillard (2002) were utilised to create the framework which underpinned student self- and peer-assessment and which was supported by recognition that global trends in assessment were urging educators to adopt assessment methods which promoted assessment for learning, instead of assessment of learning.

The “Two Stars and a Wish” (Learning & Teaching Scotland, 2006) formative assessment strategy was utilised throughout for peer-assessment. This strategy, which is commonly used in Scottish schools, and elsewhere, requires assessors to evaluate responses and to identify for contributors two elements of a submission which they consider to be effective and one element which requires further work. The assessor may also offer guidance on how this may be achieved. Students were introduced to this strategy at the beginning of the module and were encouraged to apply it to self-
and peer-assessment tasks. The strategy allowed students to offer timely, but effective feedback to peers as described above.

Tutor feedback was provided to only one sub-group following each core task submission, but this feedback was released, at that point, to the entire tutor group thus providing another opportunity for students to self-assess their individual and group responses against the one selected for feedback.

Open responses in the questionnaire indicate that peer-based formative assessment has been effective in promoting reflection and self-regulation. Typical comments were:

“"I liked working in groups for the core tasks. It helped me to understand things better when the group discussed it and bounced ideas off each other.’

“"The group work really helped me further my development and development of the content.’

Various strategies were implemented to evaluate whether participation in the new programme resulted in enhanced performance by students:

- In the final summative exam a multiple choice array identical to that used in the previous year was set. Analysis showed higher scores for 2006-7 and an independent samples t-test was carried out on the results;
- Student test scores were subjected to independent samples t-test analysis by an independent evaluator;
- Improvement was statistically significant implying that new course design had a positive impact on student attainment. \( t=2.383, df=328, p=.018 \);
- Scores from Part 2 of exam were collated and analysed. Despite student fears about lack of preparation for the final summative exam, the arithmetic mean score for the written section rose from 59% in the academic year 2005-2006 to 70% in the 2006-2007;
- Different articles were used with the 2007 exam version being slightly more demanding.

**Conclusion**

Peer feedback played a crucial role – one supported by tutor mediation and by the e-portfolio system. However it must be emphasized that the e-portfolio system was only one tool. The vital factor underpinning the success of this particular blend of methods was the extent to which students and staff engaged in the peer-assessment process. To maximize this engagement, learning outcomes for every aspect of the course needed to be made explicit for both staff and students. Furthermore students need guidance in identifying the standards/ criteria that apply to their work and in making evaluations about how their work related to these standards (Boud, 2000). Experience of staff in making such judgments provided essential scaffolding for student learning processes.

It is interesting that, in response to questions in the end of year survey questionnaire, students seemed to prefer peer feedback to that offered by tutors. This may be interpreted as a measure of the effectiveness of the methodology in developing self-regulating reflective skills. There are implications for tutor involvement and it can be argued that this outcome is beneficial for a system of higher education where classes
are increasingly large and diverse and where tutors face increasing pressures and demands on their time.

Peer-based formative assessment has been seen to bring about learning, social and professional gains for all involved. The use of blended learning to support the development of reflective, self-regulated classroom practitioners, skilled in formative assessment strategies and the pedagogy of effective e-portfolio use require further research and development.

References


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