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An Examination of Academic and Student Attitudes to the Peer Assessment of Group Work using WebPA in Engineering

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Abstract

WebPA is an online tool for the self and peer assessment of students contributions to group work. The online tool has been developed over a period of years and is currently at the heart of the JISC funded WebPA project, being led by the Engineering Faculty at Loughborough University. WebPA is centred around the peer moderation of a tutors group project work to allow individual student grades to be determined for a group activity. This paper will examine the use of WebPA for gathering and marking the groups in two departments from the faculty of engineering, expanding into the attitudes towards its use.

The paper will examine two case studies of use. Taking into account the varying group work activities that take place in the two departments, paying particular attention to the group working that is marked using WebPA. The attitudes of the academic staff using WebPA will be examined taking into account; the reasons for use, barriers and drivers for adopting peer moderated marking, as well as, the affect on teaching and any gains that are felt have been or not been made. Qualitative evidence will be presented. This paper will also present feedback from students on their experiences of using the WebPA tool.

The main findings the benefits of peer assessment were not mutually exclusive to either academics and students and that the advantages were enjoyed by both.

Keywords: peer assessment, online assessment, group work, peer-moderated marking

1. Introduction and Background

1.1 Introduction to group work and peer assessment

Referring to the National Student Survey results for 2005 and 2006 (HEFCE 2005; 2006) 'assessment and feedback' obtained the lowest mean score out of the seven themes (3.55 and 3.49 respectively). This has raised concern amongst the Higher Education (HE) community and has rightly prompted institutions to review their assessment policies and practices. The importance of assessment is identified by Boud et al, (1999, p.413) who recognise that "assessment is the single most powerful influence on learning in formal courses and, if not designed well, can easily undermine the positive features of an important strategy in the repertoire of teaching and learning approaches". This highlights the significance of designing assessments that stimulate the student learning process whilst achieving the aims and objectives of the module or course.

Group work is commonly seen as an activity which stimulates students and therefore the use of group work within HE courses is common. Some potential benefits of group work are explored by Russell et al. (2006 p.50) identifying that peer assessment could improve a number of transferable skills including; "decision making, negotiation, communication, empathy and delegation".

Three different ways of assessing group work are recognised as;

1. *"individual assessment* [where a tutor assesses individual outputs from group work such as individual reports]*;*
2. *same mark allocation;* [where each student receives the same mark]
3. *weighted mark allocation."* [where students receive a mark that comprises of a group mark and an individual element]

(University of Technology, Sydney 2007)

"There is evidence that students undertaking such project express concern about the way in which marks are awarded for outcomes produced by the group collaboratively are allocated to individuals" (Kennedy, 2006 p.1). In the past, the benefits of group work have been overshadowed by such concerns especially where students within a team are allocated the same mark.

The term 'peer assessment' (which is sometimes referred to as peer-moderated marking) is used, in this instance, to describe the process undertaken by students to assess the performance of themselves and their peer group, in relation to a group task. From this, individual team member scores are generated from the assessment scores that the students have input, resulting in an individual weighted mark being obtained. The fairness of allocating equal marks has been questioned by Willmot & Crawford (2007 p.59) who stated that the common belief is that "a lazy student might benefit from the efforts of team-mates or particularly diligent students may have their efforts diluted by weaker team members". Pond et al. (2007 p.12) found that "bunched group marks often show a low standard deviation and the use of peer review [assessment] can help to spread this when marks are reviewed at an individual level", which, supports this theory.

The term 'free riders' is frequently used to describe those who rely on others to carry out a large proportion of the group work. Tutors cannot be solely relied upon to identify and penalise free riders. Moreover, it can be very difficult or near impossible for a tutor or project supervisor to assess students' individual effort of a group task when it is common that the majority of work takes place during non-contact periods. One solution, in an attempt to make it fairer, is to involve students in the assessment process.

1.2 Introduction to Web Peer Assessment (WebPA)

WebPA as a system has gone through a number of iterations since its original conception in 1998. The first version of the current system developed from a paper based system used by Willmot and stemmed from the need to reduce the time taken to collate and mark the inputs from the students. A small project lead by the Wolfson School of Mechanical and Manufacturing Engineering produced the PASS system. Funding from the Teaching Quality Enhancement Fund was received and a rewrite of the PASS system took place based on the feedback received from the academic tutors using the system. This rewrite of PASS was launched as WebPA.

In 2004, further improvements were made to the online system by the Engineering Centre of Excellence in Teaching and Learning (engCETL) and was made available for use by any Loughborough University department. In 2006, the engCETL successfully gained funding under the JISC e-Learning Capital Programme (and sits within the cross-institutional use of e-learning to support lifelong learning strand) to allow for further development of the WebPA system and provide the application to other UK institutions. Lifelong learning is something that is frequently mentioned throughout. Led by the Faculty of Engineering at Loughborough University, the project partners include the University of Hull and the HE Academy Engineering and Physical Sciences Subject Centres.

The WebPA project recently made WebPA available as open source software. In terms of current usage, WebPA is now being used by 16 of 28 departments (57%) at Loughborough University, with the student cohort sizes ranging from 4 to 292 students. Group team or size is not restricted and is typically determined by the tutor when setting up the assessment. Four other UK Higher Education Institutions (HEIs) and one Australian University are at different stages of use. There is a thriving special interest group that is growing rapidly and discussions are being held with other institutions who have expressed interest. Over the next year, the project is expecting more institutions to adopt the software.

2. Case study methodology

This paper presents two different case studies of WebPA use at Loughborough University within the Faculty of Engineering. One presents the use of WebPA within an first year undergraduate module within the Civil and Building Department (please see section 3) and the other within a second year undergraduate module within the school of Manufacturing and Mechanical Engineering (please see section 4). A full description of each case study is provided following the same template outlined below;

- Background
- Description of group activities
- Description of the peer assessment (including the criteria used)
- Academic reasons for using WebPA
- Other drivers for using WebPA
- Barriers for the use of WebPA

A case study method was chosen to present the two uses of WebPA in the same layout so that they can be easily compared. Cousins & Jenkins (n.d) believe that "case study research is particularly appropriate where the in-depth investigation of a single instance is likely to yield insights into the class from which the instance is drawn" Therefore, we use the case studies to yield insight into the fundamental details of WebPA use and to identify over arching issues associated with the motivations for using such software and peer assessment.

3. Case study 1 – Use of WebPA within Civil and Building Engineering

3.1 Background

This member of teaching staff had taught for ten years in the HE sector.
It was the third time that they had used WebPA as a mechanism to manage the self and peer assessment process. Therefore, the tutor was reasonably confident about its application and utility in undergraduate teaching.

3.2 Description of group activities

This case study focuses on a first year undergraduate on structural design of buildings, being undertaken by two cohorts of students (69 in total) studying construction management related degree courses. Table 1 provides an overview of module details.

Table 1: Overview of the fundamental details

Module title	Introduction to structural design
Student year	1st year
Number of students	69
Number of students who completed assessment	67 (97.1%)
Group formation	Self-selected (students choose their own groups)
Group sizes	4-6 students per group
Number of criteria used	4

Students chose their own (self selected) groups of 4-6 people to undertake a poster and presentation task, which counted for 40% of the module marks, 60% being given to a written exam. The coursework brief required the students to work together to study an existing building, describe it and try to explain how the structure worked (i.e. how it remained standing); they produced an A1 size poster and gave a five minute presentation to the rest of the class. The intended learning outcomes linked to the assessment criteria for the peer assessment are shown in Table 2.

3.3 Description of peer assessment

The lecturer established a mark scheme which asked the students to provide scores against four criteria, which, characterise effective group working (communication, time management, problem solving and reflection), as they believed that it was reasonable to ask these novice students to assess one another's skills, but not necessarily the outputs of their endeavours - which the tutor would do in class. The exact criteria and Likert scoring scales used are shown in Table 2. The criteria used for the peer assessment are based around examining group behaviour and dynamics as this the major intended learning outcome. These criteria measure elements that take place during non-contact periods, adopting a student-centred learning approach.

Table 2: Criteria used within the peer assessment

Criteria	**Score range explanatory text**
Time management To what extent were you and your group members prompt at arriving for meetings or group sessions, emailing information, or phoning etc?	1. Very often late 2. Sometimes late 3. Sometimes on time, sometimes late 4. On time more often than not 5. Always on time for all tasks
Problem solving To what extent were you and your group members active in providing constructive ideas, suggestions, solutions etc	1. Rarely provided ideas 2.Sometimes provided useful ideas 3. Sometimes provided ideas, some were useful 4. Quite often provided useful ideas 5. Always provided useful ideas
Communication To what extent did you and your group members keep in touch with each other during the project?	1. Rarely kept in touch 2. Sometimes kept in touch 3. Sometimes in touch, sometimes not 4. Usually kept in touch 5. Always kept in touch
Reflection To what extent were you and your group members thoughtful about what you were doing (e.g. constructive criticism, open to ideas, seeking out advice)?	1. Rarely acted positively/reflectively 2. Sometimes acted positively 3. Sometimes positive, sometimes not 4. Usually acted positively/reflectively 5. Always positive in this way

3.4 Academic reasons for using WebPA

Enthusiasm for WebPA was expressed as it enabled simple, easy and efficient collection and processing of the marks from the student cohort. In this case peer assessment was seen as a way of contributing to the student learning experience whilst using other methods of assessing students, such as the marking of presentations and an exam at the end of the module.

The WebPA algorithm was seen as a fair way of calculating individual marks for each team member and it is a benefit that the calculations are automated saving time. It was recognised that in this case and in previous assessments that students can be tempted to give themselves full marks. However, it must be acknowledged that due to the way that the WebPA algorithm works if each student within a group gave themselves 100% this would be averaged out. Thus, only the ‘peer marks’ would have an impact on the moderated marks received by students.

3.5 Other drivers

Peer assessment was seen as a way of identifying free riders within a group. Using the WebPA system seems to be the most appropriate way to identify free riders and to recognise those that perform well. The assessment policies of the Civil and Building Department at Loughborough University, mandate a moderated marking mechanism providing individual scores for students within all modules containing group work.

3.6 Barriers for the use of WebPA

Some barriers related to the use of WebPA were identified. The tutor had to go through and check the marks even though the system had calculated scores. All but 2 students completed

the peer assessment, therefore the other students marks in those groups needed to be checked to confirm their marks had not been affected due to other members not submitting any marks. It is a common and recommended procedure that marks are given a cursory glance to identify anomalous scores.

Before the assessment takes place it is important that the assessment details and procedures are explained to students. One rule/principle identified within the literature when carrying out peer assessment is such "schemes require openness in dialogue, good planning and close monitoring in the early stages." (Wheater et al. 2005, p.15). It was identified that this can take a small proportion of time away from class activities, but, it is essential if using peer assessment. Although it may be seen as a disadvantage from a time perspective, it is crucial that the process is explained and justified to students. It was felt that such clarifications further increase submission rates, despite non-submission being low in this case.

4. Case Study 2: Use of WebPA within Mechanical and Manufacturing Engineering

4.1 Background

This member of staff has been teaching at Loughborough for over 20 years. This member of staff has been heavily involved with WebPA since it's creation and therefore, has been using the application for a number of years. Received an University Academic Practice award in 2006.

4.2 Description of Group Activities

This case study presents activities from a second year module known as the "Application of Engineering Design: Industry Based Project". Table 3 shows an overview of the module details.

Table 3: Overview of the fundamental details

Module title	**Application of Engineering Design: Industry Based Project**
Student year	2nd year
Number of students on cohort	100
Number of students who completed assessment	100 (100%)
Group formation	Seeded
Group sizes	4 students per group
Number of criteria used	6

As shown above, the groups are formed by seeding. This is decided as follows;

1. It is decided how many teams are needed. (This depends on the number of students in the cohort - in this case 25 teams of 4 are required, totalling 100 students);
2. The 25 students with the highest marks from first year design project results are identified;
3. One of this list is allocated to each team (the 'seed');
4. The remaining students are asked to sign up to the team of their choice.

This method is used as it as seen to be a quick procedure, leads to few complaints and whilst providing a reasonably even distribution of ability it also provides an element of choice.

Groups of about four students are set real life problems by industrial companies, normally four project groups work with each company in a consortium of six. Throughout the academic year the students take part in site visits, weekly team meetings and progress meetings with company engineers, based around a well established scheme known as the 'Loughborough Teaching Contract'. A more detailed description of this can be found within Willmot & Preston (1995)

The project groups each have an academic tutor, senior student mentor and industry tutor and are supported by a generic lecture programme which provides a framework for the

project covering; project planning, design processes, information retrieval, decision making, report writing and oral presentation.

4.3 Description of the Peer Assessment
The assessment of the module is carried out in a conventional manner with the student groups preparing formal written reports and giving an final oral presentation to the company group. These assessments result in a group mark being given by the tutor and company representative.

The students are required to assess both their own and group peers achievements against criteria set down by the module leader on a Likert scale of 1-5 (the intended learning outcomes of the module) as shown in Table 4.

Table 4 - Self and Peer Assessment Criteria

Criteria	**Score range explanatory text**	**Module Specification – Intended Learning Module Specification - Intended Learning outcomes. *At the end of this module, students should be able to:***
Rate each person's ability at searching for information?	1. Made no effort beyond a simple internet keyword search 3. Made an average contribution in this respect 5. Searched a wide variety of sources tenaciously and with success	-Search for information using extended library techniques related to a design solution
Rate each person's ability to generate ideas and concepts?	1. Contributed no useful original ideas 3. Made an average contribution in this respect 5. Generated a wealth of realistic ideas and design concepts throughout	Generate ideas, apply scientific principles in solving unfamiliar engineering problems
Ability to apply sound design methodology to concept evaluation	1. Played little or no real part in this element/relied on gut feeling 3. Made an average contribution in this respect 5. Methodical logical, unbiased and thorough when deciding the merits of ideas	Design a system, component or process using routine design techniques,
Rate each person's contribution to developing the chosen concept?	1. Lacked the tenacity to properly engineer the solution 3. Made an average contribution in this respect 5. Applied appropriate science and executed sound experiments/models/calculations	-Develop a solution from an initial idea and make value judgements about it.
Attendance?	1. Unreliable, often absent or late without explanation 3. Made an average contribution in this respect 5. Reliable, always present when required by the team, mentor or supervisor unless prevented by illness.	
Rate each person's contribution to the Written Report?	1. Made only a small contribution to a poor standard 3. Made an average contribution in this respect 5. Completed some of the most challenging sections to a high standard	effectively communicate in writing making extensive use of common IT tools.

4.4 Academic reasons for using WebPA

The statistical evaluation of the peer assessment, facilitated by WebPA, was kept confidential between the student and the academic. This confidentiality helped to ensure that students were more keen to participate in the peer assessment. It has been shown that students are less inhibited through this process than in other group consensus marking schemes and more inclined to tell the truth (Willmot & Crawford 2004). In the past, when consensus marking was used, it was most common that each member of the group would receive the same mark, being the mark given by the tutor because groups seldom agreed about distributing their marks. It was also clear that it would be near impossible in large cohorts for a academic tutor to assess each individual accurately.

4.5 Other drivers for using WebPA

If peer assessment is to be effective, it should provide for individual confidential data entry: one assessment per student, rather than one per group. It is felt that a valid assessment can only be made against prescribed criteria, of which there will be several, hence several questions per assessment. With a cohort of one hundred plus, it can be seen that the data set can become very large and there is a need to automate the data handling and analysis. In the original paper based system on which Web-PA is based, the academic tutors found that they where spending up to two days generating lots of paper work and going through a number of laborious calculations. With the introduction of the online system, these have all but disappeared. More subtle reasons have also been identified which encompass the confidence in the algorithm to ensure that the grades calculated are correctly. It certainly appears that students have more confidence in an automated system than relying on tutor discretion. The accrediting panel from the Institution of Mechanical Engineers (IMechE) commented that the use of this peer assessment method was commendable.

Similar to the first case study, the departmental handbook of Manufacturing and Mechanical Engineering (Loughborough University (2007) mandates the use of some form of peer assessment for individualising students' marks in group work activities.

4.6 Barriers for the use of WebPA

While feedback from the student body has proved very positive the only concern raised in the discussion of the use of WebPA for the development of this case study is that its use has now spread so widely within other modules of the department that there is a fear of reaching initiative fatigue, through overuse of WebPA peer assessment throughout the duration of their programme. The availability of an effective peer assessment scheme should not be used as reason to allow unrestrained expansion of group-work.

5. Student attitudes towards peer assessment and WebPA

5.1 Survey method

Having explored academic use and attitudes we now focus on student attitudes and examine the results of a survey carried out by the WebPA project team. A student survey was carried out to gather student opinions of WebPA specifically and peer assessment in general. The survey was carried out on 14th January 2008, with the students from the first case study. A total of 51 valid responses were recorded. There were 69 students in the cohort resulting in a 74% response rate. The survey participants were those students mentioned in the first case study taking the introduction to structural design module. The WebPA project team visited one of their lectures and distributed paper copies of the survey directly to the students collecting the responses there-and-then. This was seen as a good way of obtaining a high response rate. The survey questions were developed to align with the findings numerous project documents including a literature review and an extensive evaluation plan.

5.2 Survey results

Participants were asked to rank four different ways of groups are formed in terms of preference, with 1 being the most preferred and 4 being the least.
Table 5 shows the results from the of 38 (75%) valid responses.

Table 5: Ranking of four different group formations

N=38	1	2	3	4
Random (where students are randomly put into groups)	7.8%	26.3%	13.1%	52.6%
Seeded (e.g. high achieving students are distributed evenly between groups selected by the tutor)	13.1%	36.8%	34.2%	15.7%
Mixed groups (Group membership is determined by the tutor based on specific attributes such as mixed; ability, academic background, gender or culture)	10.5%	21.0%	42.1%	26.3%
Self-selecting (where students choose their own groups)	68.4%	13.1%	10.5%	7.8%

(1 being most preferred to 4 being least preferred)

Over two-thirds (68.4%) of respondents most preferred self selecting groups (where students choose their own groups). Over one-half (52.6%) least preferred random group selection. Seeded group selection (for example, where the tutor chooses at least one strong student per group) was neither the most preferred or the least with the majority of respondents ranking it second or third.

Participants were asked which skills they believed had; much improved, improved, unimproved or had no opinion in relation to carrying out peer assessment. Table 6 shows the results.

Table 6: Skills improved/unimproved in relation to group work

N=51	Much improved	Improved	Unimproved	No opinion
Communication	3.9%	74.5%	13.7%	7.8%
Group dynamics e.g. working effectively together	9.8%	70.5%	15.6%	3.9%
Participation of groupwork	17.6%	64.7%	11.7%	5.8%
Peer appraisal skills	3.9%	58.8%	25.4%	11.7%
Problem solving	5.8%	50.9%	33.3%	9.8%
Self reflection/appraisal	5.8%	60.7%	17.6%	15.6%
Team working skills	17.6%	58.8%	15.6%	7.8%

The majority respondents believed a number of skills were improved through the incorporation of a peer assessment element to group work. These included skills related to communication (74.5%), the dynamics of groups (70.5%) enhanced participation of groupwork (64.7%) and self reflection/appraisal skills (60.7%). The majority of respondents (58.8%) also felt that team working skills had improved whilst nearly one-fifth (17.6%) believed that these skills were much improved. It was interesting that over one-third of respondents thought that self reflection/appraisal skills had unimproved or had no opinion.

Table 7 shows specific statements related to the use of the WebPA system.

Table 7: Statements specific to WebPA

N=50	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
I felt that WebPA was secure	22.0%	68.0%	10.0%	0.0%	0.0%
I was provided with ENOUGH information about the assessment within the software	10.0%	72.0%	16.0%	2.0%	0.0%
There was USEFUL help within WebPA	2.0%	58.0%	36.0%	4.0%	0.0%
The WebPA software was easy to navigate	24.0%	68.0%	2.0%	6.0%	0.0%

The majority of respondents generally agreed that WebPA was secure (90%), that there was enough information (82%) about the assessment and that there was useful help within WebPA (60%). Also, 92% either strongly agreed or agreed that WebPA was easy to navigate.

With regards to issues and problems encountered by students, a very small proportion had difficulties as shown in Table 8. Those issues identified revolved around students locating the software within institutional online systems including the Virtual Learning Environment (VLE).

Table 8: Results of a question relating to potential issues of WebPA.

	Yes	No
The completion of the assessment(s) **(N=50)**	0.0%	100.0%
Group formation e.g. assigned to wrong group **(N=50)**	0.0%	100.0%
Logging into the software **(N=50)**	10.0%	90.0%
The appeals/complaints procedure **(N=48)**	6.2%	93.7%
Other**(N=51)**	9.8%	90.2%

Of the small proportion of free text comments (9.8%) one participant stated “There is no box where you can tell the lecturer what a certain member did or did not do to actually see if the marks they got were fair”. This supports the work of Pond et al. (2007) who suggest the provision of text boxes could give students the opportunity to justify their ratings of peers. One free text box which allows a student to justify the scores they gave themselves and other team members has since been implemented on the foundation of these findings.

With regards to the free text comments, one participant made the following remarks towards peer assessment in general;

”Good for those people who put effort in. It’s a good confidence boost when you receive a good result, knowing that your group members feel you deserve it.”

6. Discussion

6.1 Analysis of academic attitudes

It is clear that WebPA is seen as a convenient tool which reduces the workload and saves time, building upon the work of Hughes (2001) WebPA software is seen as an aid for setting up assessments quickly and easily overcoming a potential drawback identified by Race (2001) in that assessments can take a long time to set up. It could be argued that those new to peer assessment could be uncertain about the types of criteria to use, thus the software provides examples of criteria used in the past.

The feedback facility within WebPA is one of the newer features and typically tutors provide their own feedback to students without assistance of the system. Despite their being an option within WebPA, neither of the tutors used the feedback facility suggesting that it may need modification or further work. The new facility does align with one of Nicol & Milligan (2005) principles in that “students taking online tests normally get some feedback about their level of understanding either as an overall test score or as automatically delivered feedback comments”.

Both achieved a high response rate from the two sets of students, supporting the findings of the student survey that the majority of students felt comfortable assessing their peers and were comfortable of other people assessing them. Interestingly, most of the criteria used within the two cases was criteria that the tutor could not measure themselves suggesting that involving students in the process provides additional information. For example, both case studies asked about time management and attendance at meetings, which, is otherwise near impossible to measure when the majority of activity of self-regulated learning takes place during non-contact time.

Despite there being many similarities between the two case studies this paper and other studies (Wheater et al. 2005; Russell et al., 2006;) highlight that there are many different

variations of peer assessment. It is acknowledged that peer assessment is seen as a personal thing and that many like to carry it out in their own way, thus, their being many unique case studies. This highlights the need for online peer assessment software, such as WebPA, to be flexible. Recently, advanced user options have been added to offer a variety of features. Further development will be carried out with this in mind.

6.2 Student attitudes towards peer assessment

Distinct benefits of peer assessment, from a student perspective, are explored by Cassidy (2006), who emphasised that it can enhance core skills that are useful within industry. It is true that the assessment of your own performance (often referred to as self appraisal) and that of others (peer appraisal) are common practices carried out within the workplace. Both case studies used criteria that measured some of these lifelong learning and employability skills supporting these claims. Furthermore, a high proportion of students themselves felt that a variety of skills had improved being a significant outcome. Of course being ultimately involved in one's assessment is conveniently described as 'taking ownership' of the process.

Pond et al. (2007) present a large study in relation to student attitudes and their perceptions of WebPA. there has been a lack of recent studies that involve student attitudes towards peer assessment.

7. Conclusions

We set out to present two cases of use and to examine the reasons for adopting peer assessment and WebPA. The findings clearly show the reasons for using WebPA are personal ones from a tutor perspective. However, knowing that it is of benefit to students is also motivator. After outlining academic and student attitudes towards peer assessment and WebPA an important question arises relating to the identified incentives. Is the primary motivator of using peer assessment because it saves ones time or use it to improve the learning experience of students and enhance student satisfaction? From the evidence presented there is a strong case for both arguments, nevertheless the pleasing outcome is that peer assessment provides many benefits to academics and students which are not mutually exclusive.

One lesson to be learned is that peer assessment is best used when it is directly linked to the intended learning outcomes of the module as presented in the two case studies.

8. Future work

One case study presented an example of a mature WebPA user who has been involved with iterations of the software. Case studies of new users would be sought in the future. The project will remain to produce and collate cases of WebPA use and will continue to promote the software to other institutions and support existing users.

The WebPA project is adopting a user centred approach thereby attempting to engage a range of different stakeholders. Taking students as an example, the WebPA advisory board benefits from student representation adding valuable input into forefront discussions. An event organised by project partners in November 2007 had a student panel session, where four students were asked about their experiences of peer assessment and where applicable, WebPA. Future aspirations include the formation of a WebPA student user group and to identify student champions of WebPA. It is acknowledged that the student survey could be carried out with other student cohorts in the future. A comparative study examining the attitudes of first year students to second or final year students, being one attractive example. Further research outlined in this section and that presented within the existing and new literature, will be carried forward and direct the future development of the WebPA system.

9. Further information

More information about the WebPA project can be found at; http://www.webpaproject.com. A CD will be provided, to take away, which will include a wide variety of materials relevant to peer assessment and the WebPA software.

A WebPA demonstrator is available for you to trial the software with fictitious information and can be found at http://webpaos.lboro.ac.uk/login.php. Feel free to use this exemplar and introduce it to your colleagues.

(4281 words excluding abstract [231] and tables [801])

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