



WebPA®

online

peer assessment

Resource Pack

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Papers located in the back cover wallet:

Case Studies

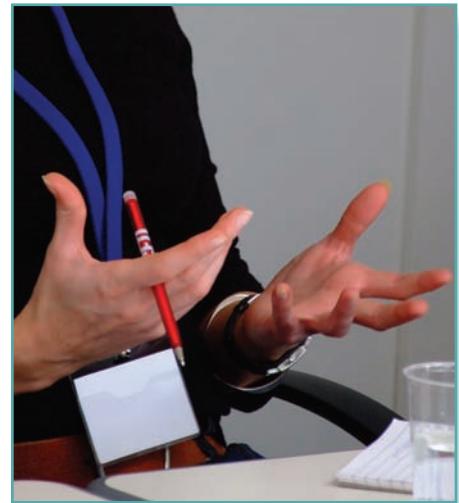
Briefing Papers

A Community of Users

WebPA Student Surveys



Introduction



Rationale for the Resource Pack

This WebPA Resource Pack has been designed to support those considering the adoption of WebPA. WebPA is an online automated tool that facilitates the peer moderated marking of group work. It captures the various deliverables generated from the JISC funded project (see the section on history on page 4) in a usable guide and also helps to inform the implementation and embedding of the tool within a department and, ultimately, across an institution. All the experience and guidance within the pack is based on lessons learnt by the adopters of the WebPA tool and the project team.

Who should read this pack

The pack is aimed at a range of people who may be involved in the consideration and adoption of an e-learning tool. You should read this pack if you want:

- an overview of what WebPA is and does
- to know where and how to get started with WebPA
- to understand your possible role in relation to WebPA
- access to other resources that promote the pedagogical benefits of self and peer assessment for the moderation of group work by students.

How to use this pack

Each of the sections is targeted at a different user group. Dip in and out of the sections as required or point colleagues to relevant sections and give them the handouts at the end of the pack.

Background

What is WebPA?

WebPA is an online automated tool that facilitates peer moderated marking of group work. Students carry out a group task set by the academic tutor and follow this by an assessment on the performance of the group. A 'weighting factor' is generated for each individual group member which is derived from each student's input against defined criteria. Based on the total mark given to the group task, assessed and allocated by the academic tutor in the usual way, the weighting factor is then used to moderate marks providing an individual mark for each student.

The tool is convenient and flexible, lending itself to any type of university group assignment in any discipline. Academic tutors can determine the size of the groups, the overall number of groups for the task, the assessment criteria, when and how the assessment is delivered and a whole host of other flexible parameters.

The WebPA tool was made available as an open source application in 2007 and is based on sound pedagogical research. Academic tutors at

Loughborough University have been researching the use of the tool in teaching over the past ten years. As the tool has been widely adopted, other academic tutors are now carrying out research in their own discipline areas, demonstrating both the appeal and the versatility of WebPA.

Why use WebPA?

Contemporary pedagogy has heavily promoted the benefits of student-centred team work. However, the allocation of fair and equitable marks still remains a major problem. Students express strong disquiet about receiving an overall group mark and wish to

"This fair method allowed us to identify each other's strengths and weaknesses, meaning that we worked better in subsequent group activities. The feedback I received has been invaluable to my personal development." Luke Field, Third year undergraduate student, Loughborough University

be assigned individual marks that reflect their personal effort and ability. This is where the WebPA tool can help ensure that students view the assessment process more positively.

History of WebPA

The WebPA tool has been developed over a number of phases and was originally adapted from a paper-based system into a complex Microsoft Excel spreadsheet in 1998. As the internet became more widely used the tool was rewritten to work as a simple web-based system.

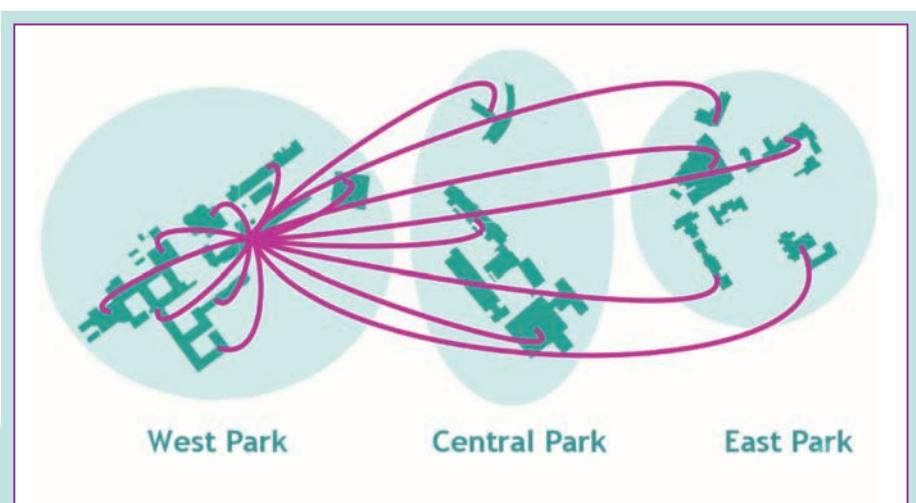


Figure 1. Spread of WebPA across the Loughborough Campus



Later it was found that the tool used a similar methodology to that outlined in Goldfinch and Raeside (1990), utilising the same basic principles.

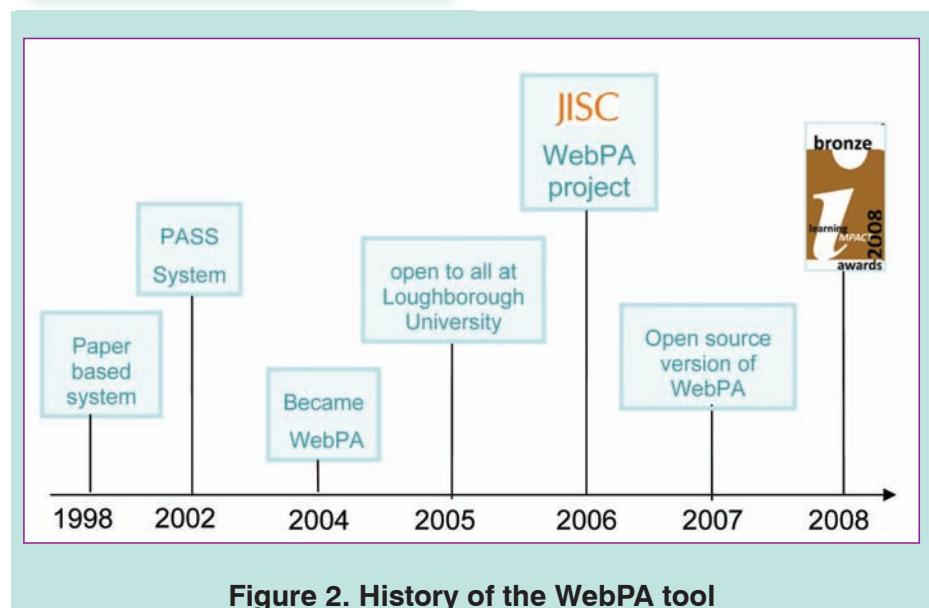
In 2006 the WebPA project was set up in partnership with the University of Hull and the Engineering and Physical Sciences Higher Education Academy Subject Centres. Funding was received from the JISC e-Learning Capital Programme. This allowed the consortium to make the tool available as an open source application in mid 2007, incorporating new features and processes and widening its use to other UK higher education institutions (HEIs). By 2009, the users of the WebPA tool had formed a community of approximately 17 HEIs, including colleagues in Australian universities. This community of users is continuing to grow and provide support to new adopters of the WebPA tool.

In 2008, WebPA was awarded a IMS Learning Impact Award, recognising the use of technology to improve learning. WebPA was the only UK project among the twenty-three shortlisted finalists.

In addition to receiving an award, the WebPA tool was named 'Best Assessment Support' for the 'best in category' awards.



"WebPA is simple to use and affords me a unique insight into the operation of my groups. It eliminated the bickering that my old 'paper' method used to promote - and the students like it" Professor Rob Parkin, Head of the Wolfson School of Mechanical and Manufacturing Engineering, Loughborough University



Section 1

Information for Academic Tutors

Introduction

WebPA supports academic tutors by alleviating the problems traditionally associated with the assessment of group work, often replacing an existing paper based method and saving time. WebPA is an award winning peer assessment tool that helps support group work activities for formative or summative assessment.

This section of the WebPA Resource Pack will help an academic tutor to make an informed decision on whether WebPA is the appropriate tool for their use and how to proceed.

Group work

This Resource Pack assumes that you already use, or have made the decision to use, group work in your teaching. However, if you wish to know more about the benefits of using group work, then a good introduction is ‘supplementary information about self and peer assessment’ available from <http://www.webpa.ac.uk/?q=node/107>.

In addition to published research on WebPA itself, a literature review of research on the use of peer assessment in teaching and the assessment of group work was carried out to inform the development of WebPA. This included an examination and comparison of other available tools for the peer assessment of group work <http://www.webpa.ac.uk/?q=node/288>.

"Students are much more satisfied – complaints have almost disappeared"
Dr Carol Robinson,
Maths Education Centre,
Loughborough University

"Overall marking is honest and credible"

*Dr Keith Pond, Business School,
Loughborough University*

Why WebPA is the right tool for the assessment of group work

WebPA specifically addresses and solves the most common issues facing academic tutors with regard to the assessment of group work:

- you need a tool to help with assessment which will save time and reduce errors
- you wish to reduce student complaints that the assessment is unfair
- you would like to give students individual marks for a group project but cannot assess what they have done in non-contact time
- you want to assess the process as well as the product of the group work.

How WebPA works

In essence, WebPA will allow you to create and manage an assessment for group work where students peer moderate the marks. WebPA is non-prescriptive and allows you to define the marking criteria and the

proportion of the overall group grade that can be moderated. The key tutor output is that student grades are generated in usable reports which will not only save time but also help to make group work fairer, along with the assurance that the tool is based on sound pedagogical research. If you wish to read more, then published research is listed in Section 4 (*Publications*). One of the key published papers to read is 'The development and evolution of an online peer-moderated-marking tool: WebPA' (Loddington, S., Pond, K., Wilkinson, N. and Willmot, P., 2009, *British Journal of Learning Technology*).

There is a demonstration version of WebPA where you can log in as both an academic tutor and a student to try out the system and explore the features:

<http://webpaos.lboro.ac.uk/>

What are the benefits of using WebPA?

The following is a summary of the benefits that have been identified through evaluation as having the most impact. A more detailed overview is given in the WebPA effective practice guide <http://www.webpa.ac.uk/?q=node/578>.

For students:

- it is a confidential and secure way of assessing individuals within group work activities
- they are involved in the assessment process, reflecting on their own and their peers' performance
- they receive timely and balanced feedback on their assessment through the peer assessment tool
- it positively impacts on individual performance and team dynamics, enriching the overall learning experience
- they find it to be a fairer way of assessing their work and complaints are largely reduced.

For more information on student attitudes to WebPA, see the enclosed report on 'WebPA Student surveys' and read 'Perceptions of peer assessment in university teamwork' Willmot, P., Pond, K., Loddington, S. P. and Palermo, O. A., 2008, *International Conference on Engineering Education*.



"The literature review is very useful - particularly the table of references"

Dr Anthea Connolly, Faculty Assessment and Feedback Project Officer, University of Leeds

For an academic tutor:

- it is sophisticated, yet quick and easy to set up. It can be used in formative or summative assessment saving time and reducing workload
- there is flexibility to create your own assessment criteria, scoring ranges and groups to suit the way you teach - in any subject discipline
- it helps them to develop a picture of what happens within groups and to assess hard-to-measure outcomes such as group working and leadership
- it provides students with alternative forms of feedback within their assessment
- the generation of individual student marks is automated using a pedagogically sound methodology
- WebPA has been successfully used and evaluated for more than 10 years, giving confidence and access to a community of users.

For departments and institutions:

- students respond positively to the use of WebPA and anecdotal evidence shows that students request its use where assessment practices are considered unfair
- WebPA has the potential to improve results relating to feedback on national student surveys
- the tool can be offered as a service, centralising the recording of group assessment scores
- WebPA can contribute to the institutional quality assurance policy
- the tool can impact on assessment policy.

How do others use WebPA?

A number of case studies are available, covering a wide range of disciplines and institutions http://www.webpa.ac.uk/?q=case_studies. The case studies provide the reasons and drivers behind

why the tutor adopted WebPA, the effects it has subsequently had on their teaching and the students' attitude, behaviour and engagement with the process. The following case studies are included with this pack:

- 1: Aeronautical and Automotive Engineering
- 2: Biology, Chemistry and Forensic Science
- 3: Civil and Building Engineering

Common concerns before starting to use WebPA

Reliability of WebPA

The team behind WebPA have invested time and energy into ensuring that the tool will not let you down. The reputation of WebPA in the academic community is important. Bug fixes are available from the download page.

As WebPA is an open source tool there is an active community which is ready and able to answer any questions relating to its installation and use. It is hoped that you in turn will be able to help new users.

Figure 1. Demonstration version of WebPA

Because WebPA is open source, this means that you have all the source code for the tool. You can therefore make direct modifications and enhancements to the tool or find a developer with the correct skills to help you.

Validity of assessments conducted through WebPA
 Concerns have been raised in the past about the validity of the end marks in comparison with those given if the academic tutor alone was marking the group work product. Evidence provided by Willmot and Crawford (2005) shows that this type of marking is fair and comparable to that of other practices.

As with other assessment practices, the acceptance of the process by the QAA is important. According to the QAA section of the 'Code of Practice on Assessment' (regarding self and peer assessment) the processes used in validity, reliability and explicitness have to be addressed in order to show that the practice is credible. Academics using WebPA at Loughborough University are confident that they are able to address all three points.

Getting students to value the method of assessment

As with many innovative practices it can be difficult to get the students to value the method of assessment. As the academic tutor, you will need to address the reasons for using this type of assessment with the students, as well as the benefits they will gain from the practice. Additionally, you will need to address any concerns that they have about the assessment practice.

Will groups collude in awarding marks?

It is normal to be concerned that a group will collude and award the same marks for all of the members. The answer to your concern lies in how you perceive this behaviour. If you believe that there is no problem in the group and that good group work has been demonstrated then there is no collusion. Conversely, if you feel that other influences have been in play then you will need to address the group and investigate further - WebPA cannot determine this itself and so the academic tutor must look for anomalies in results or student feedback and address issues as they arise.

"The visiting panel commented that the peer assessment [conducted by using WebPA] in part B [2nd year undergraduate] was commendable."

Extract from Accreditation Report of the IMechE, May 2006, for Loughborough University

This area of group work has interested some of the academic tutors using the tool and the research has been reported by Robinson (2006).

What about unfair marking?

Over the years of use there have been a few cases where unwarranted marking down of an individual has been seen within a group. Another similar issue is when a student marks himself incredibly well compared to other members of the team. In both cases, it is normally seen that the rest of the group has been more realistic and the final mark is adjusted appropriately (moderated) as a result. The way WebPA calculates the marks greatly reduces this risk and you as the academic tutor can always overrule or further investigate any occasional cases where you think marking down has occurred.

Although occasional accusations of bullying via WebPA have been made, none have been found to be true when examined. An example of such an accusation came from 'Student A' who had overheard a conversation where a team mate said that he was going to use WebPA to mark 'Student A' down and was encouraging others to do the same. When the



tutor examined the input by all the team members this bullying had not occurred and 'Student A' actually did quite well. Although the discussion had occurred between the team mates, the confidential input of the scores for the assessment made it easier for individuals in the team to enter their own opinions. The anonymity experienced by the students is key and has been examined in Pond, Coates, and Palermo (2007).

'Gaming' of WebPA

There is always the risk of students trying to 'game' or play WebPA. There will always be students who wish to use WebPA to their advantage and work out how to gain higher marks. Two main factors contribute to student behaviour: team familiarity and year of study (final year students are more concerned with marks than first year undergraduates). However, the risks of students 'gaming' WebPA are no greater than when a manual system is used for peer moderation.

WebPA can assist in the prevention of the tool being 'gamed' as the academic tutor has the power to moderate and change the marks that are

influenced. As with collusion, it is the responsibility of the academic tutor to identify and address any irregularities in the students' input and final grades provided by WebPA.

Integrating WebPA with institutional systems

WebPA can initially work as a stand-alone tool. This enables you to get a pilot up and running quickly. However, in the long term it is likely that you will want to integrate WebPA with institutional systems.

In order to move towards integration with the Student Information System (SIS) at your institution you will probably need to involve learning and teaching support services and institutional IT services. WebPA does not support any particular SIS and it will be up to your institution to decide how the integration will occur. Integration has successfully been achieved with a number of different SISs and it may be helpful to post to the JISCmail list to see what has happened at other institutions.

Similarly, WebPA will not automatically integrate with Virtual Learning Environments

(VLEs). Again, this would require some local development. For example, Coventry University have developed a module that allows limited integration with Blackboard Vista (which is now available for everyone on the WebPA SourceForge area). Work is ongoing to provide integration with other VLEs.

How do I convince my department/institution to let me use WebPA?

The experiences of other adopters of WebPA show that you will need to engage a number of different groups at your institution (management, IT, learning and teaching support etc – both at departmental and institutional level), in order to get WebPA up and running. This may be fairly straightforward, particularly if you can demonstrate that you can already align the intended learning outcomes of the module which contains group work with WebPA. Make use of the briefing papers, sections written for other groups and case studies within this Resource Pack to help you engage others.

"The visiting panel commented that the peer assessment in part B was commendable"
Extracted from Accreditation Report of the IMech E, May 2006 for Loughborough University



Cost

There is no cost in obtaining the software or the support supplied by the community. However, there may be costs associated with using the time of technical or other support staff or purchase of a server if this is required.

How do I get WebPA installed?

WebPA can be downloaded free of charge from the SourceForge site <http://sourceforge.net/projects/webpa/>. Unless you are confident in progressing with the installation of the tool yourself, it is recommended that you approach a learning technologist to assist you. They will be able to help you identify where and how the tool can be installed. They may want to read the relevant briefing paper and/or Section 3 (*Information for IT support*).

Starting with a pilot

Testimonies of those who have adopted and embedded WebPA show that a pilot has been extremely beneficial. It allows potential users to demonstrate that WebPA addresses the assessment needs of the module

and is accepted by the students. In all cases, where the pilot has been successful, this has led to the wider adoption of WebPA.

For a successful pilot it is important that you allow a long enough lead-in time. Assuming that you want to be using WebPA in the first semester of an academic year, it may be that you and your support team install the WebPA tool onto local servers up to six months in advance. This allows for sufficient time for your support team to install WebPA and for you to familiarise yourself with the tool before you use it with students. Of course, this is just a guide - some adopters of the tool have managed to get an installation and pilot running within one semester.

Once the pilot has run it should be formally evaluated to see if goals were met and if there were any additional, unexpected benefits. If the pilot is successful, then changes to module specifications will probably be necessary to fully embed WebPA.

It is difficult to identify the maximum and minimum cohort of students for a pilot, as all modules and subject areas will differ. Currently WebPA runs with

cohorts ranging from as little as 20 students to a maximum of over 200.

WebPA doesn't need a 'high end' server to run and your department or institution should be able to provide a server for the co-hosting of WebPA. This means that any technical admin costs are often negligible as the WebPA support is integrated with any other services running on the server.

Table 1 provides an example of how a pilot may be undertaken.

Achieving wider use of WebPA within my institution

One of the hardest parts after a successful pilot is convincing more academic tutors to use WebPA and the institution to install and support it centrally. Depending on your original motivations for adopting WebPA in your teaching, you may wish to consider becoming a 'champion' within your institution. The role of 'champion' may entail nothing more than being prepared to share your experiences and extolling the benefits to others. At the University of Hull, Gordon and Chin et al presented at the University's annual Learning and



Teaching Conference, giving a paper entitled 'Encouraging team skills through enhancing engagement: the use of peer and self assessment in group work' (2009). Other academic tutors wishing to use WebPA have subsequently approached the team for support and access to the tool. Such an approach could attract internal grant and award funding. Alternatively, learning and teaching support staff within your institution may be happy to take on this role for you.

Getting support

Join the community of users to get further support – see the related briefing sheet. The Higher Education Academy Engineering and Physical Sciences Subject Centres will also provide a limited amount of support and advice. A special interest group (SIG) of users and developers provides another route for information and support. <http://webpa.ac.uk/?q=node/487>.

Table 1. Example of how a pilot may be undertaken

Task Name	Task Description
Identification	Identify all the people necessary to run a pilot – academics, technical and support staff.
	Meet and engage with those involved, ensure everyone is comfortable with what is involved from both an academic and technical perspective.
Preparation	Agree contacts for both technical queries and academic enquiries.
	Check that everyone is clear about what is to happen when and has any necessary instructions and is aware of bug tracking etc.
Implementation	Download and install WebPA.
	Provide user training for academics/support staff as necessary.
	Run pilot.
Evaluation	Meet with both the academic and technical contacts to discuss how the pilot went.
	Report on any issues that have arisen and agree a way forward.



Section 2

Information for Learning Technologists and Educational Developers

Introduction

This section of the WebPA Resource Pack is aimed at learning technologists or educational developers who are managing/supporting/involved in the installation and pilot of WebPA. It also provides some guidance on the support required for embedding WebPA into the department/institution.

Is WebPA the right tool?

WebPA is an award winning peer assessment tool that helps support group work activities for formative or summative assessment. WebPA supports academic tutors by alleviating the problems traditionally associated with the assessment of group work, often replacing an existing paper-based method and saving time.

WebPA is suitable for use by any academic who uses group work in their teaching as it helps academics undertake peer moderated marking of group work. It is usually used to reduce some common problems associated with group work and also helps academics to allocate individual marks for a single product resulting from group work.

It could be that your institution has decided to introduce more group work into the curriculum and in this case WebPA can often be a good tool to support academics in this process.



Relevant references

If you would like to find out more about the issues associated with group work see <http://webpa.ac.uk/?q=node/107>.

More detail on how WebPA can alleviate these issues is given in Section 1, also see the effective practice guide <http://webpa.ac.uk/?q=node/578>.

Try a demonstration version of WebPA to explore the features at <http://webpaos.lboro.ac.uk>.

How does WebPA fit within institutional policy?

The fit of WebPA with your institution's policy is dependent on that policy and its wording. You will need to identify the appropriate policy/policies for your institution. These may include:

- learning and teaching
- assessment
- group work
- e-learning.

It may also be prudent to consider departmental procedures and guidelines and drawing together all this information regarding policy to provide a basic FAQ (Frequently Asked Questions) which can be used with all the relevant stakeholders.

How does WebPA fit with the QAA?

As with other assessment practices, the acceptance of the QAA is important. Based on section 6 of the Code of Practice for the Assurance of Academic Quality and Standards in Higher Education (Assessment of students, see <http://www.qaa.ac.uk/academicinfrastructure/codeOfPractice/section6/>) “the use of peer assessed activities [...] enables students to understand assessment criteria and deepens their learning in several ways.”

What evidence is there that the tool is effective?

WebPA has been developed over a number of years and is based on sound pedagogical research that has been undertaken by those using and supporting the use of the tool. Due to the continued research, findings have been reported regularly and cover topics such as the validity of the peer marking process, the acceptability of the tool with both academic tutors and students and the evolution of the tool.

One of the key published papers to read is ‘The development and evolution of an online peer-moderated-marking tool: WebPA’ (Loddington, S., Pond, K. Wilkinson, N. and Willmot, P., 2009).

See Section 4 (Publications) for other published journal and conference papers that relate to the publication of the research findings.

"While the University does not wish to discourage tutors from using their own self and/or peer assessment approaches which are tailored to the needs of specific modules, it would also encourage departments to consider the use of WebPA."
University Policy Statement on Group Working – Minimum Requirements, Derek Bleasdale, October 2006, Loughborough University

How do I convince academics and senior managers to use WebPA?

Working with academic tutors

You may have to convince a colleague to adopt the tool as a trial. In this case you will need to champion the tool and possibly approach a number of academic tutors. It is easier to begin with tutors that you know are currently using a paper based system to allocate individual marks for group work.

You will need to begin a dialogue covering the benefits of the tool. In addition, you may have to challenge well-established beliefs, for example: who should assess the student work? Generally, once you explain the benefits to both the students and the academic tutors, the tutors can see the need for such a tool and are more willing to participate in a trial. It may be that you will need to agree that the marks will not be used to moderate the final group grade until the tutor is comfortable that the outputs are

reliable and realistic for individual students.

Within this pack you will find a briefing paper in the back cover wallet, specifically written to target the academic tutor which is useful when introducing the tool to them. Once you have the academic tutor on board for the pilot you may want to point them to Section 1 (*Information for academic tutors*). They may also find the enclosed case studies helpful.

Attracting more academic tutors in the future will be easier once you have completed a successful pilot and have a champion who is able to share his experiences and expound the benefits that he has found.

Working with senior managers

Gaining support from senior managers is always beneficial when introducing a new tool. How you gain this support will really depend on the senior managers and their associated roles and interests. In order to assist you in presenting your case you may want to show them the relevant briefing paper located in the back cover of this pack. In addition,

you may also need to keep them informed of the progress of any pilot that takes place and of any final outcomes.

Getting WebPA installed

WebPA can be downloaded from <http://sourceforge.net/projects/webpa/>

If you have the right IT skills and access to an appropriate server then you can install WebPA yourself. You will need to read section 3 for IT support and the documentation for installation <http://webpa.ac.uk/?q=node/30>.

Alternatively, you will need to work with your departmental/central IT support. For a pilot, it should be possible to work with IT support to find space to host the tool on a shared server. There is a briefing note [located in the back cover of this pack] to support you with this.

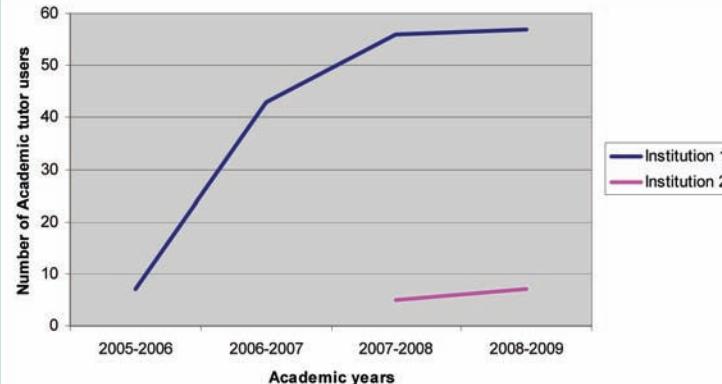


Figure 1. The progress of institutional adoption

Working with WebPA as an open source system

WebPA was initially released as an open source application in 2007. There is no charge for you to download, install and use the tool. The downloader is granted a licence to use the application and you can find out more about this type of open source licence (version 3 of the GNU General Public Licence, used in around 60% of open source projects) at <http://www.oss-watch.ac.uk/resources/licencefinder.xml>.

Other common concerns about using open source software such as security and scalability are covered in more detail on in Section 3.

Getting a pilot up and running

As a learning technologist or educational developer, it is hard to predict your role in the piloting of the WebPA tool. Some academic tutors wish to manage the whole pilot themselves, others might like you to organise everything and simply provide them with access.

The experience of adopters to date is that it is easier to begin with a departmental pilot – only one adopter has successfully begun with an institutional approach. In an ideal world, for a departmental pilot, installation can be achieved in just a few weeks – from the start to making the tool available to academics and students. Realistically, you should expect timescales to be much longer as other factors may also influence how long it will take to get a pilot up and running. These can include:

- resourcing – the availability of people to install the tool, support its use and the practicalities of having a server available
- timing – the current point in the academic year and the point at which the academic tutor would like to use the tool.

This is covered in more detail in Section 1.

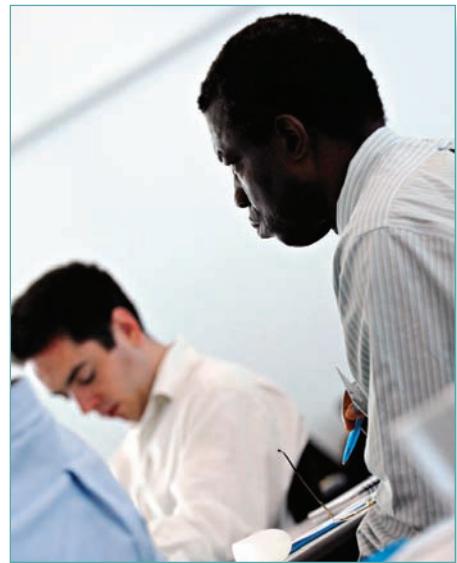
Cost

There is no cost to obtaining the software or the support supplied by the community. However, there may be costs associated with using the time of technical or other support staff in your university, or the purchase of a server if this is required. Cost implications are covered in more detail in Section 3.

Wider adoption

After the pilot has been evaluated and is seen to be a success, then you will need to decide on the next action to take. The role of learning technologists and education developers often involves working towards wider institutional adoption. Below are some of the things that you might need to get involved in:

- IT implications – installation on central servers, investing time and effort into providing integration with the university's other systems such as student and staff information etc.
- working to change module specifications if necessary



- encouraging your pilot academic tutors to present or write up their work, talk about their use of WebPA, apply for any local teaching awards and so on
- talking to other learning technologists and educational developers, including any central units, to help promote the tool and help identify other potential users
- making presentations or reports to any institutional e-learning committees etc.

Institutional adoption has been documented at two institutions. At the first (founding) institution the tool originated in one engineering department and spread, by a number of methods, into departments across the university. Use has increased from 7 academic tutors in 2005, to 57 academic tutors assessing over 7,500 students in 2009. At the second institution, WebPA has only been installed for 18 months and so the growth is smaller as yet, but it can also be seen to be increasing, see Figure 1.

Getting support

Join the community of users to get further support – see the related briefing sheet. The Higher Education Academy Engineering and Physical Sciences Subject Centres will also provide a limited amount of support and advice. A special interest group (SIG) of users and developers provides another route for information and support. <http://webpa.ac.uk/?q=node/487> .



Section 3

Information for IT Support

Introduction

This section supports someone involved in the installation of WebPA. It has been tailored to those with an intermediate level of IT knowledge. The section is confined to information relevant to the installation, if you want to know more about why your department or institution may have decided to use WebPA, or to find out about the purpose or history of WebPA, you may need to read other sections as well.

Your role in the adoption of WebPA in your institution

It is assumed that you have either been asked to install WebPA on behalf of an academic tutor or you are embarking on the installation process yourself. Most installations begin by piloting with a limited number of academic tutors and a set of small cohorts. Depending on the size of the team behind the installation, you may also be asked to administer WebPA which involves changing optional settings.

As you are likely to be the key contact for technical and maintenance issues we highly recommend that you join the JISCmail list <http://www.jiscmail.ac.uk/lists/webpa.html>, where any new releases, patches and other relevant information are posted. This will enable you to stay informed about the latest developments that may affect your installation of the WebPA tool and to install bug fixes quickly. More information about joining the community of developers and users can be found at the back of this pack.

FAQs related to the installation of WebPA

Downloading WebPA

WebPA can be downloaded from SourceForge and installed on any suitable server. Installation on a shared departmental server for a small pilot is a good starting point. For more information about the installation see the documentation at <http://www.webpa.ac.uk/?q=node/30>.

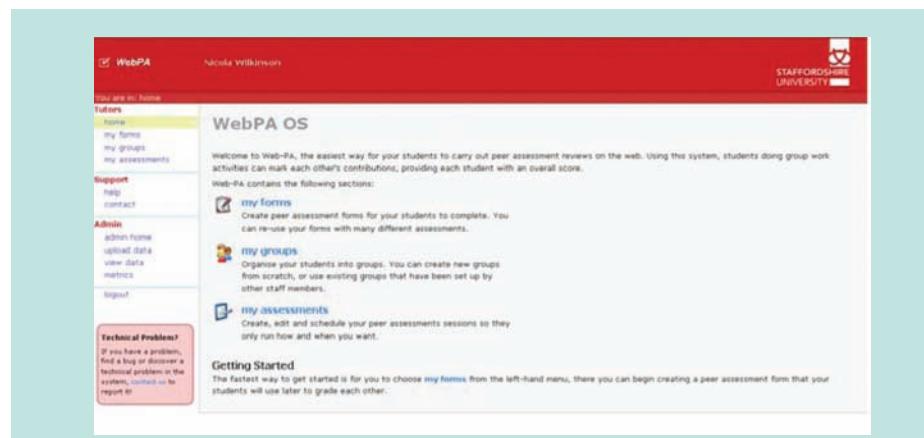


Figure 1. Institution specific corporate layout

WebPA is open source – what does that mean?

WebPA was initially released as an open source application in 2007. There is no charge for you to download, install and use the tool. However, there is a cost of ownership (see *Cost Implications*). There are also licence conditions to be adhered to (see Figure 2).

WebPA has been made available under version 3 of the GNU General Public Licence (GNU GPL) <http://www.gnu.org/copyleft/gpl.html>. The GNU GPL is used in around 60% of open source projects¹ and grants the downloader a licence to use the application. There are other elements to the licence that allow for distribution, modification and other such actions. You can find out more about this type of open source licence at <http://www.oss-watch.ac.uk/resources/licencefinder.xml>.

I'm concerned that WebPA isn't enterprise-ready

One of the most common concerns relating to open source software is that the system won't be enterprise-ready. Traditionally systems are considered enterprise-ready when they can be considered to be reliable; don't need specialists to install and support the tool; fit with the established security models; can be administered locally without the need for more specialists; and use a standard database.

WebPA has been proven to be enterprise-ready in the institutional roll out of the tool at both Loughborough University and the University of Hull. On average at Loughborough University, over 50 academic tutors currently assess 8,000 individual group members using WebPA annually. In comparison, the University of Hull currently assesses an average of 500 individual group members a year.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

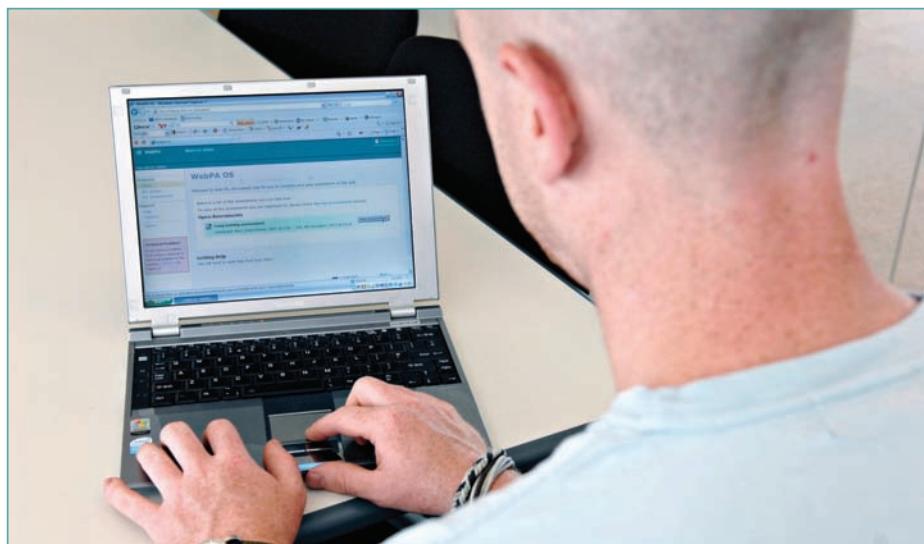
"The Program" refers to any copyrightable work licensed under this license. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

Figure 2. Licence terms and conditions

¹ 'Open Source License Resource Center / Black Duck Software'. Blackducksoftware.com. <http://www.blackducksoftware.com/oss> Retrieved on 2008-11-17



How is the security of the tool addressed?

Due to the number of adopters choosing to use WebPA, the security of the system has been, and is being, continually addressed through fixes provided by the community. Due to the nature of open source development, future security issues need to be raised with the community so that they can be dealt with in a timely and appropriate manner. There are ways to help keep WebPA a secure tool – to find out more read the briefing paper on joining a community of developers and getting support.

Integration with institutional systems

The WebPA system can be linked to other institutional systems as required. As you have access to the system's underlying code (written in PHP and MySQL) you can ensure integration with the Student Information Systems (SIS) for your institution and perform testing on the system before piloting with academic tutors and students. Community members have contributed to the development of a seamless login module for use with the Blackboard Vista VLE <http://webpa.svn.sourceforge.net/>

A screenshot of the WebPA OS interface. The top navigation bar shows 'WebPA' and 'Staff Demo-User'. The main content area is titled 'WebPA OS' with a sub-section 'Getting Started'. On the left, there is a sidebar with links: 'Tutors' (selected), 'my forms', 'my groups', 'my assessments', 'Support' (with 'help', 'contact', 'logout'), and a 'Technical Problem?' button. The 'Getting Started' section contains three items: 'my forms' (Create peer assessment forms for your students to complete. You can re-use your forms with many different assessments.), 'my groups' (Organise your students into groups. You can create new groups from scratch, or use existing groups that have been set up by other staff members.), and 'my assessments' (Create, edit and schedule your peer assessments sessions so they only run how and when you want.). At the bottom of the 'Getting Started' section, it says 'The fastest way to get started is for you to choose my forms from the left-hand menu, there you can begin creating a peer assessment form that your students will use later to grade each other.'.

Figure 3. WebPA out of the box

viewvc/webpa/branches/bb_powerlink/.

Further contributions are being developed for other VLE systems.

What about WebPA's scalability?

WebPA can be used by one academic tutor with a small cohort or with a number of academic tutors and their associated cohorts. Figure 4 shows the increase in usage at Loughborough University over a four year period. The largest single cohort of students to carry out an assessment so far has been 290. In contrast, at the University of Wales, Newport there is currently just one academic tutor with 30 students.

How can I future-proof WebPA?

Ensuring that WebPA is future-proof is another common concern. However, by adopting a system that is open source, you have a copy of the underlying source code. This enables you to customise and update the tool to suit your institutional needs. Within the community there are other institutions who have adopted WebPA and are making changes which are subsequently being released back to the community through SourceForge. Through this collaborative approach you and your university will benefit from these new features and security updates as the tool is continually developed and maintained.

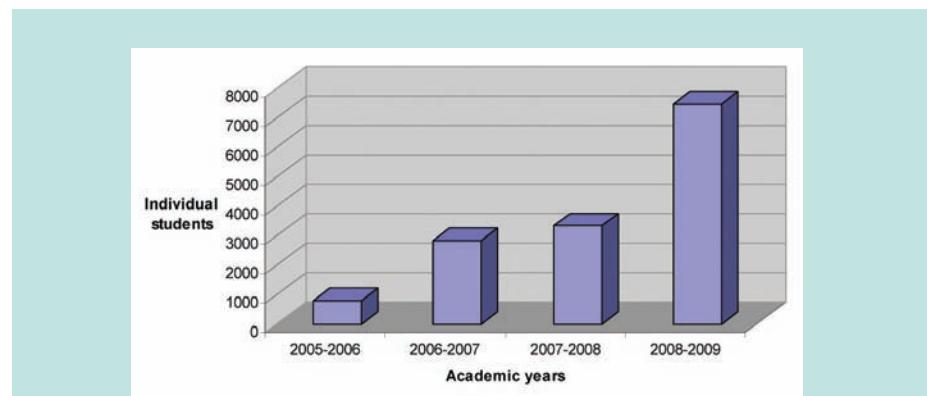


Figure 4. Increase in number of students being put though the WebPA tool at Loughborough University

Thinking ahead

Experience has shown that nearly all WebPA pilots have been successful and quickly expanded to many users, often beyond the initial department. If possible, plan for future growth and usage from the outset. For example, the University of Hull has WebPA centrally hosted on its own server.

Tailoring WebPA for my institution

WebPA has several, easily configurable settings that you can change to get up and running quickly. For example, you can configure the tool to change the 'help' email address <http://www.webpa.ac.uk/?q=node/211>.

More detailed configuration is optional when putting the tool into practice, including automatic emailing and the provision of feedback structures, which will need to be defined by the academic tutor or learning technologist/educational developer.

Another common area is changing the look and feel of the tool to better fit your department or institutional scheme (See Figure 5). Documentation on changing the look and feel is available from <http://www.webpa.ac.uk/?q=node/311>.

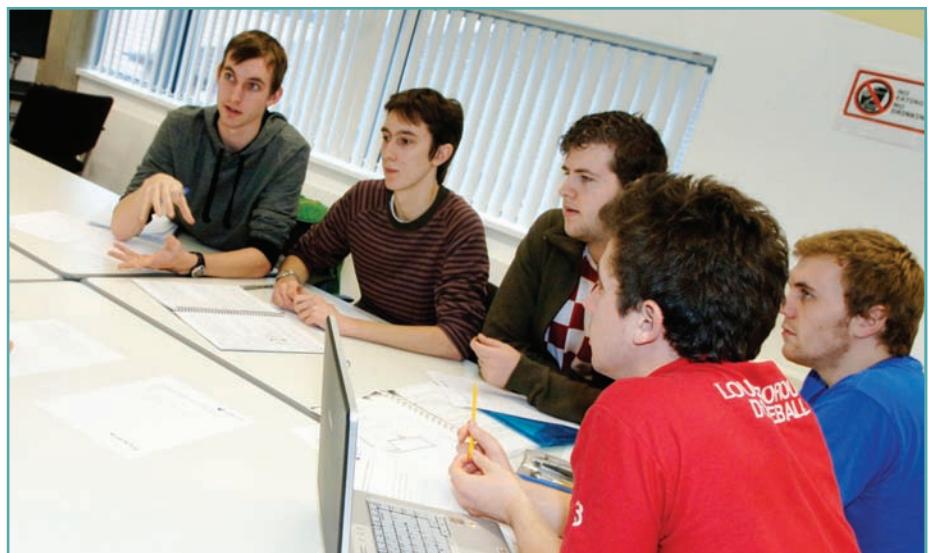
Cost implications

When considering the cost implications of the WebPA tool, there are a number of factors which need to be taken into account. One of the main areas for consideration will be the total cost of ownership (TCO) in implementing and running WebPA. This TCO will be dependant on your institution and the decisions made by the team implementing WebPA.

The TCO depends upon a number of varying factors beyond the implementation phase and the systems architecture. For instance, if the implementation is on proprietary web servers (e.g. a Microsoft 2K server) then costs may be incurred. Consideration is required as to whether the cost is direct, through the requirement of the server for WebPA alone, or if it is indirectly incurred, through a server being available for the installation of the tool. Still, there are other, longer term costs that need to be factored in. These long term costs include the support of the tool, training, and maintenance beyond any pilot.

The screenshot shows the UNSW WebPA OS homepage. At the top, there's a blue header with the UNSW logo and the text 'You are in: home'. Below the header, the main content area has a title 'WebPA OS' and a sub-section 'Getting Started'. On the left, there's a sidebar with links for 'Tutor', 'Support', and 'Technical Problems?'. A red box highlights the 'Technical Problems?' link, which says: 'If you have a problem, find a bug or discover a technical problem in the system, contact us or report it.'

Figure 5. Example of Institution specific corporate layout



Initial implementation may be cost-free if a server is available for the piloting of tools within the institution. It is then at the next stage, as the piloting ends and embedding takes place, when costs are more likely to become evident. This should not dissuade you from supporting an installation but rather ensure that you are fully informed when the time comes to move on from a pilot, particularly as open source is seen as being 'free'.

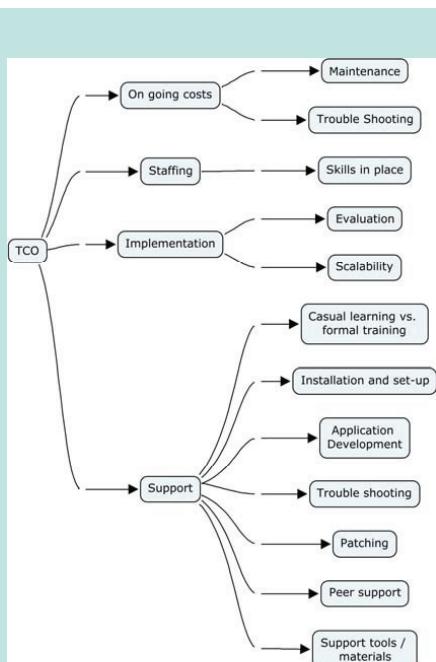
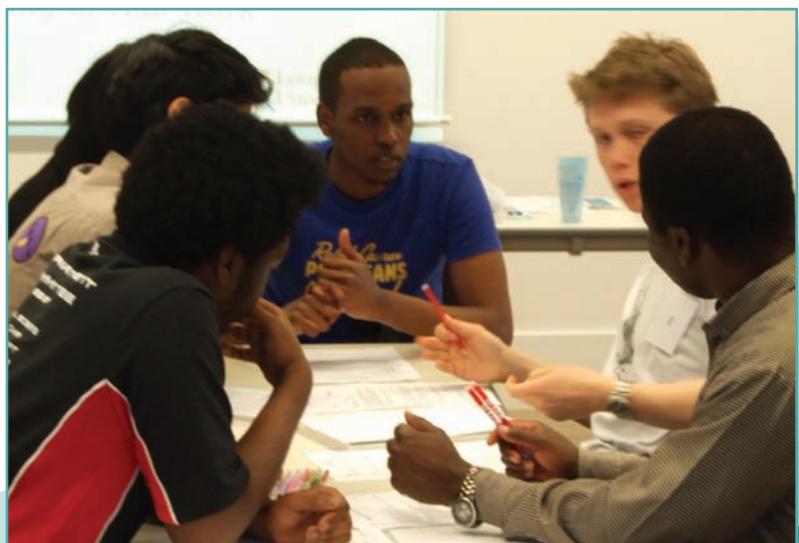


Figure 6. Total cost of ownership factors



Section 4

Publications

Workshops/events/seminars

Chin, P. A. (2007) seminar on WebPA, University of Hull, UK.

Chin, P. A., Loddington, S. and Wilkinson, N. (2007) WebPA training session, University of Hull, UK.

Chin, P. A. (2008) *WebPA for PGCEHE Staff* (Postgraduate Certificate in Higher Education), University of Hull, UK.

Loddington, S. P., Wilkinson, N., Bates, M. R. N., Crawford, A. R. and Willmot, P. (2008) Discover WebPA: an online self and peer assessment system, *EE2008: International Conference on Innovation, Good Practice and Research in Engineering Education*, 14-16 July 2008, Loughborough, UK. Available at <http://www.engsc.ac.uk/downloads/scholarart/ee2008/w005-loddington.pdf> [accessed 31 July 2009].

Loddington, S. P., Wilkinson, N. and Moron-Garcia, S. (2007) *Web peer assessment: an online tool for assessing group work*, University of Coventry, UK.

Willmot, P. (2007) *Peer assessment in team projects*, Engineering Learning and Practice Research seminar, University of Western Australia, Faculty of Engineering, Computing and Mathematics, Available at <http://www.mech.uwa.edu.au/~jamest/eng-work/seminars.html> [accessed 31 July 2009].

Wilkinson, N. (2008) *WebPA at Using technology to enhance learning, teaching, assessment and feedback*, Cardiff University, UK. Available at <http://www.engsc.ac.uk/nef/events/e-assessment.asp> [accessed 31 July 2009].

Loddington, S. P., Wilkinson, N. and Bates, M. R. N. (2008) *Discovering peer and self assessment of group work using WebPA*, M1/M69 Staff Development Link, Loughborough University, UK.

- Loddington, S. P. and Wilkinson, N. (2008) *Online peer assessment for HE, assessment for learning: how does that work?* Northumbria University, UK.
- Wilkinson, N. and Loddington, S. P. (2008) *WebPA: an introduction to online peer moderated assessment*, University of Derby, UK.
- Wilkinson, N. (2008) *Using technology to support the student learning experience*, JISC Netskills, University of Oxford, UK. Available at <http://www.netskills.ac.uk/content/products/workshops/range/jasls.html> [accessed 31 July 2009].
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- Wilkinson, N. and Moron-Garcia, S. (2008) WebPA user-group workshop, University of Coventry, UK.
- Wilkinson, N. (2008) *Introducing WebPA workshop*, University of Coventry, UK.
- Willmot, P. and Wilkinson, N. The WebPA Project: shortlisted nomination for IMS Learning Impact Award presented at the Summit on Global Learning Industry Challenges, Austin, Texas, USA, 12-15 May 2008, For details see <http://www.imsglobal.org/pressreleases/pr080515.html>
- Wilkinson, N. (2009) *WebPA, assessment matters: new and creative forms of assessment and feedback*, Higher Education Academy and JISC collaboration internal workshop, Leeds, UK.
- Wilkinson, N. (2009) *WebPA e-assessment live*, Loughborough University, UK.

In addition, the WebPA project team have run the following three events at which members of the project team and users have all presented:

- Workshop on peer assessment in Engineering and Physical Sciences (2007) Loughborough University, UK. Available at <http://www.engsc.ac.uk/nef/events/peer-assessment.asp> [accessed 31 July 2009].
- User group meeting (2008) *Conference Aston*, Aston University, UK.
- Peer assessment, Physical Sciences Centre, Engineering Subject Centre, WebPA project, January 2009, *Manchester Conference*.

Conferences

- Chin, P., Willmot, P. and Crawford, A.R. (2006) 'Electronic peer assessment tools for multidisciplinary use'. Proceedings of the *Conference of the International Society for Scholarship of Teaching and Learning*, November 2006, Washington D.C, USA.
- Harker, M. and Bates, M. (2007) The Evolution of WebPA (online peer moderated marking system) at Loughborough, *JISC Online Conference*, June 2007, online.
- Wilkinson. N. and Bates. M, (2007) WebPA: an online peer assessment tool. *Connections: sharing the learning space - Learning and Teaching Conference 2007*, July 2007, Brighton University, UK.
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- Wilkinson, N. (2007) A reusable model for usability testing of online teaching and learning applications, ALT-C, September 2007, Nottingham, UK.
- Gordon. N., Bateson. T, Chin. P., Hanson. S., and Wilkinson. T. (2009) Encouraging team skills through enhancing engagement: the use of peer and self assessment in group work. *University of Hull Annual Learning and Teaching Conference*, January 2009, Hull, UK. Available at <http://www.hull.ac.uk/UALTC/Registration/Encouraging%20team%20skills%20-%20Gordon%20Bateson%20Wilkinson%20Chin%20and%20Hanson.pdf> [accessed 31 July 2009].
- Gordon. N. (2008) Group work and peer assessment in higher education computing courses. *The Higher Education Academy Subject Centre for Information and Computer Science's 2008 Annual Conference*, August 2008, Liverpool, UK.
- Loddington, S. P. (2008) Student attitudes and experiences of online peer assessment. *3rd International Blended Learning Conference*, June 2008, University of Hertfordshire, UK.
- Loddington, S. P., Wilkinson, N., Glass, J. and Willmot, P. (2008) An examination of academic and student attitudes to the peer assessment of group work using WebPA in engineering. *EE2008: International Conference on Innovation, Good Practice and Research in Engineering Education*, July 2008, Loughborough, UK. Available at <http://www.ee2008.info/index.php/papers/> [accessed 31 July 2009].
- Pond, K., Willmot, P. and Palermo, O. A. (2008) Effective deployment of web-based peer review marking of group projects. *Higher Education Academy Subject Centre for Business, Management, Accounting and Finance 3rd Annual Conference*, April 2008, Edinburgh, UK. Available at http://www.heacademy.ac.uk/business/events/detail/2008_BMAF_Annual_Conference [accessed 31 July 2009].

- Willmot.P., Pond, K., Loddington S. P. and Palermo, O. A. (2008) Perceptions of peer assessment in university teamwork. *International Conference on Engineering Education*, July 2008, Pecs/Budapest, Hungary. Available at <http://iceee2008hungary.net/download/fullp/index.html> [accessed 31 July 2009].
- Wilkinson, N. and Loddington, S. P. (2008) WebPA: the evolution of a peer assessment system with an in-depth case study of usage. *CAA Conference 2008*, September 2008, Loughborough University, UK.
- Wilkinson, N. (2008) WebPA. *Association of Civil Engineering Departments Annual Conference*, October 2008, Bradford University.
- Wilkinson, N. (2009) WebPA. *Supporting the iGeneration Conference*, January 2009, University of Ulster, Belfast, UK.

Articles

- Bates, M. (2007) WebPA: online peer moderated marking system for UK higher education. *D-Lib Magazine*. Available at <http://www.dlib.org/dlib/january07/01inbrief.html> [accessed 3 August 2009].
- Higher Education Academy Engineering Subject Centre (2007) WebPA: an online peer assessment system for HE. *transLate*, issue 20. Available at <http://www.engsc.ac.uk/downloads/pdfs/newsletters/translate20.pdf> [accessed 3 August 2009].
- Blanco, E., Gardler, R. and Wilkinson, N. (2007) WebPA: the road to sustainability. *OSS Watch*. Available at: <http://www.oss-watch.ac.uk/resources/cs-webpa.xml> [accessed 3 August 2009].
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- Loddington, S., Pond, K. Wilkinson, N. and Willmot, P. (2009) The development and evolution of an online peer-moderated-marking tool: WebPA. *British Journal of Learning Technology*, 40 (2), 329-341
- Pond, K., Coates, D. S. and Palermo, O. (2007) 'Student experiences of peer review marking of team projects. *International Journal of Management Education*, 6 (2), 30-43.
- Willmot, P. and Crawford, A. R. (2007) 'Peer review of team marks using a web-based tool: an evaluation. *Engineering Education: Journal of the Higher Education Academy Engineering Subject Centre*, 2 (1), 59-66. Available at <http://www.engsc.ac.uk/journal/index.php/ee/issue/view/21> [accessed 3 August 2009].

Press releases

IMS Global Learning Consortium announces 2008 Learning Impact Awards recipients. Austin, Texas, USA, 15 May 2008. Available at <http://www.imsglobal.org/pressreleases/pr080515.html> [accessed 3 August 2009].

JISC project shortlisted for international award. JISC, 20 February 2008. Available at <http://www.jisc.ac.uk/news/stories/2008/02/webpa.aspx> [accessed 3 August 2009].

1. Aeronautical and Automotive Engineering

Gary Page, Loughborough University

Background

Gary Page has had experience of using WebPA over a four year period in a fourth year module that ranges across both semesters of the academic year.

The module (Group Design Project) requires students to go through various stages of a project to design an aircraft. These stages include the design process, configuration, analysis and costings etc. In 2008 there were 23 students on this module and they were divided into two groups.

Assessment is based on a team mark from coursework submissions converted to an individual student score through use of the WebPA application. Three different criteria are used in this assessment process. In 2008 all but one of the students completed the assessment (there was no penalty for non-submission).

Existing practice and intended aims

Gary decided to use WebPA on this module in order to reward students that work hard within groups and to penalise those that were 'free-riders'. Prior to the adoption of WebPA a paper-based method of peer assessment had been used.

The challenge

Gary would have preferred to assess this module using peer assessment only. However, in the absence of this option a combination of peer and self assessment was used. Gary was interested to see what effect or differences there would be in the marks allocated if final grades were awarded for peer only assessment compared to self and peer assessment.

[Editor's note: a peer only assessment feature has since been introduced to WebPA.]

Benefits

To Gary's mind, the primary advantage of assessing this group work activity online through WebPA was that it saved time by reducing the amount of paperwork involved and there was no need for him to calculate an individual score for each student as the system did this automatically.

He says that the majority of students were happy to use an online system and speculated that, as each student knew that they were going to be assessed by their peers, they would have modified the way in which they worked accordingly.

Gary says that having an interim assessment part way through the module meant that students had the



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opportunity of gauging how their contribution was currently being viewed by fellow group members. This gave them the chance to improve their contribution/efforts accordingly, if necessary. However, Gary notes that specific changes in attitude and behaviour are very difficult to measure. The interim assessment did not contribute towards the final mark.

Key points for effective practice

Gary offers the following advice for other WebPA practitioners:

- carefully set the criteria in relation to the task that is being set
- establish the right scoring range
- explain the process to the students at the start of the module and in advance of the start of the task/activity involved.

Additional information

Gary suggests that sharing information with other WebPA practitioners would be very helpful. In particular, he is keen to find out what kinds of generic questions are most effective (specifically questions that measure aspects of group dynamics). He has also expressed an interest in hearing from others who have used a scoring scale of 0-5 (as opposed to 1-5) in order to find out whether this had impacted on the overall grades achieved.

Gary also notes that students do not appear to read questions/criteria properly and that they can appear to have a pre-conceived mark in mind that they award, regardless of the specific questions/criteria set.

Conclusions and recommendations

Gary's goal in using WebPA to assess the group work activity on this particular module was to reward hard working students and penalise those who contributed less and he feels that this has been achieved effectively.

However, he did comment that he felt that the deviation between the highest and lowest marks was too great, and that he would seek to address this in future.

2. Biology, Chemistry and

Forensic Science

Paul Chin, University of Hull

Background

Paul Chin has had experience of using WebPA on a number of occasions. In the case reported here, WebPA was used on various modules delivered to 170 undergraduate Biology students, 100 undergraduate Chemistry students, and 34 undergraduate and postgraduate Forensic Science students.

The modules each involved different group activities, all of which involved working on a group project with one group product. Within each module, each group comprised, on average, between four and five randomly selected students.

Assessment was equally divided between tutor assessment and peer assessment through WebPA. For the WebPA assessment five different assessment criteria were used.

Existing practice and intended aims

The purpose of using WebPA to support peer assessment was to promote a range of transferable and scientific skills. The transferable skills included communication skills, time management and team working skills (amongst others) which would be developed during the process of undertaking group work. Based on the nature of the actual group activities it

was also possible to develop scientific skills such as problem solving, critical analysis and planning skills.

There were a number of additional reasons for using WebPA. By involving students in group work and peer assessment they engage with each other more actively which, in turn, leads to a better learning experience. WebPA provided great time savings for Paul, freeing up more time to support students in other ways.

Benefits

Paul noted a number of advantages arising from his use of WebPA. Most significantly, time was saved through the production of automated results, making the assessment process easier. This meant that the students could gain more benefit from the group work activities and helped to “*put the assessment into perspective for the module’s intended learning outcomes.*” Paul also found that the way WebPA works as an administrative tool did not limit or restrict the way that he engaged with his students in peer assessment.

Based on evidence arising from formal student feedback, there was no objection from them to using an online system, demonstrating that online peer assessment is just as effective an assessment practice as other approaches. In addition, Paul noted that there were also a number of social



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and educational benefits reported by students in line with what had been hoped for.

On an institutional level, Paul says that his use of WebPA at Hull has provided the platform for a university-wide service which other interested colleagues had started to use. Unexpectedly, since he posted background information about WebPA on the university's intranet, Paul has been independently contacted by several students enquiring about how peer assessment could be of benefit to them.

Key points for effective practice

Paul advises other WebPA practitioners to:

- promote group work and peer assessment as a way for students to develop a range of study and employability skills
- explain to students the rationale behind peer assessment and the use of WebPA
- provide 'training' on how to work as a group
- offer students the opportunity to practice with peer assessment, helping to familiarise them with the process.

Additional information

Paul suggests that sharing information with other WebPA practitioners would be very helpful. In particular, he is keen to see how others have used it and how they have accustomed students to the concept and practice of peer assessment.

Conclusions and recommendations

Paul's experience of online peer assessment has been very successful and continues to be so. He feels that he has achieved more than what he had originally set out to do.

He also notes that within his own institution, work is still ongoing to fully integrate WebPA into the institution's central records system so that student registrations etc can be fully automated.

3. Civil and Building Engineering

Stephen Emmitt, Loughborough University

Background

Stephen Emmitt was introduced to WebPA by a departmental colleague who suggested it as a means of peer assessing group work online. He had no previous experience of using an online peer assessment tool, although he had previously used a paper-based system at a different institution to peer assess group work.

Stephen used WebPA in a third year module during the second semester of the academic year. The module (Architectural Detailing) required students to submit two pieces of conceptual coursework and to make two presentations. In 2008 there were 13 students on this module and they were divided into three groups.

Assessment for this group coursework was based on both tutor assessment (80%) and peer assessment (of a single criterion) recorded by students through the WebPA application (20%). Nearly all students on the module completed the assessment (there was a 20% penalty for non-completion).

Existing practice and intended aims

Stephen knew that it was a departmental requirement that individual contributions to group coursework should be assessed and

he was also interested to see whether the WebPA system would live up to his expectations.

His primary incentive, however, was to gain an insight into what happens between students during group work activity.

The challenge

One challenge that arose during the course of the module occurred when one of the students completed one piece of coursework but not the other. As a result group members found it very difficult to assess that student's individual contribution to the group and for Stephen to give a final mark. He noted that in future each coursework submission would be assessed separately.

Benefits

For Stephen, the primary advantage of assessing this group work activity online through the WebPA system was that it saved time and involved less marking.

He did not note any specific benefits to the students arising from the online nature of the peer assessment, but did comment that some students "*played the game*" to try and improve their scores.



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Additional benefits that Stephen noted included the ability to store/archive the results of the peer assessment and the fact that the system allowed lecturers to comply with mandatory policies of assessing individual contributions for group work.

Key points for effective practice

Stephen enthusiastically recommends that others use WebPA for self and peer assessment of group work, noting in particular that:

- it is quick and easy to set up
- it is quick for students to use
- it is easy for the academic tutor to check which students had responded at any given moment in time.

In the future, Stephen also intends (on this particular module) to set different assessments for each deliverable and then combine the marks (outside of WebPA) to generate a final mark. This would effectively mitigate problems arising when students complete one aspect of a module but fail to complete others.

Additional information

There was just one aspect of peer assessment with which Stephen was uncomfortable. He described how one student came to ask for his marks because he wanted to see who had allocated them, an awkward situation.

In future Stephen has decided not to show how the overall mark had been arrived at so as to prevent any further complaints.

Conclusions and recommendations

Stephen feels that his use of WebPA has helped him to gain an insight into the group dynamics involved in the module he was delivering.

He notes that future assessments would be 'tweaked' on the basis of his experience of using the tool and as more research is carried out into peer assessment. He also feels that it would be beneficial to integrate WebPA with Loughborough's VLE.

Briefing paper for Academic Tutors

This briefing is designed to offer academic tutors a quick introduction and guidance to WebPA, an online peer assessment tool.

For further information, please refer to the WebPA Resource Pack or visit the WebPA website at <http://www.webpa.ac.uk>

The use of group work is becoming common practice within higher education. As student numbers increase, a trend has emerged towards the use of group work as a means of assessment. In addition, it is recognised that group work encourages students to develop transferable skills, highly prized by employers, such as team-working, communication and problem solving.

Assessment of group work can be difficult, with much of the process often being conducted outside normal contact time. As a result academics often award each student a summative 'group' mark which does not take into consideration individual performance. Consequently, summative marking can be seen as inherently unfair by students as both high performers and 'free-riders' get the same treatment.

Peer moderated marking can help to address this disparity. WebPA enables each student to assess their own contribution to a group-based project or activity as well as that of their fellow team members. WebPA can be used either summatively or formatively.

Through using WebPA each student within a group or project team can receive an adjusted mark reflecting their individual contribution.

What is WebPA?

WebPA is an online peer assessment tool that can be used by any higher education institution. It can support any academic tutor who is using, or wishes to introduce, group work within their teaching practice. WebPA enables academic tutors to set specific criteria for the peer assessment of group work.

WebPA offers a number of benefits to the academic tutors who choose to use it, not least the opportunity of offering their students a fair means of assessing group work activity.

"WebPA is simple to use and affords me a unique insight into the operations of my groups. It eliminates the bickering that my old 'paper' method used to promote – and the students like it."

Professor Rob Parkin, Head of the Wolfson School of Mechanical and Manufacturing Engineering,
Loughborough University



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BRIEFING PAPER



Originally developed over ten years ago at Loughborough University, WebPA has been further enhanced through a JISC funded project involving collaboration between Loughborough University, the University of Hull and the Higher Education Academy Subject Centres for Engineering and Physical Sciences.

As a result of this project, the WebPA tool is now available to all higher education institutions through an open source licence.

Since the first open source release of the WebPA tool in 2007, 17 higher education institutions have adopted WebPA and are using it with their students. A thriving community of users is rapidly developing.

In 2008, the WebPA tool gained international recognition for learning impact by the IMS Global Learning Consortium. At the same time it was also named '**Best Assessment Support Tool**'.

"WebPA is now embedded in our first year and will be for the next five years. Typically 180-200 students will be subjected to [WebPA] every year."

Dr Bob Cherry, Senior Lecturer,
Manchester Metropolitan University

Is WebPA right for you?

In the first instance, take a look at the demonstrator available online at
<http://webpaos.lboro.ac.uk/>

Then consider the following questions:

- Does the group work theory on which WebPA is founded align with your current/intended practice?
- What current practice will you need to change in order to use WebPA?
- Can you gain the necessary support from your institution to install and support the introduction of WebPA?

What do I do next?

If you are confident that WebPA is for you, and that your institution is able and willing to support its adoption, then these are the next steps to follow:

- plan ahead - it will take time to get WebPA up and running
- identify key personnel (senior managers, learning technologists, educational developers, systems administrators etc.) who can help you to introduce WebPA successfully
- in order to gain support, explain your reasons and the benefits you anticipate,
- make any revisions to your practice necessary to accommodate WebPA
- talk to other WebPA users for advice and support and become part of the user community
- start with a pilot implementation
- brief students and other staff involved in the pilot
- evaluate your use of WebPA.

Where can I find further information?

For further support, advice, guidance, case studies and a range of handouts, refer to the WebPA Resource Pack, available as hardcopy or online at
<http://www.webpa.ac.uk>

BRIEFING PAPER

Briefing paper for Senior Managers

This briefing is designed to offer senior managers a quick introduction and guidance to WebPA, an online peer assessment tool.

For further information, please refer to the WebPA Resource Pack or visit the WebPA website at <http://www.webpa.ac.uk>

The use of group work is becoming common practice within higher education. As student numbers increase, a trend has emerged towards the use of group work as a means of reducing assessment. In addition, it is recognised that group work encourages students to develop transferable skills, highly prized by employers, such as team-working, communication and problem solving.

Assessment of group work can be difficult, with much of the work being conducted outside normal contact time. As a result academics often award each student a summative 'group' mark which does not take into consideration individual performance. Consequently, summative marking can be seen as inherently unfair by students as high performers and 'free-riders' get the same treatment.

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academic tutor who is using, or wishes to introduce, group work within their teaching practice. WebPA enables academic tutors to set specific criteria for the peer assessment of group work.

Originally developed over ten years ago at Loughborough University, WebPA has been further enhanced through a JISC funded project involving collaboration between Loughborough University, the University of Hull and the Higher Education Academy Subject Centres for Engineering and Physical Sciences.

As a result of this project, WebPA is now available to all higher education institutions through an open source licence. Since the first open source release of the tool in 2007, a further 17 HEIs have adopted it, and are using it with their students.

In 2008, the WebPA tool gained international recognition for learning impact by the IMS Global Learning Consortium. At the same time it was also named '**Best Assessment Support Tool**'.

Benefits of WebPA

WebPA is based on sound pedagogical research and users have identified many benefits from using WebPA for both the academic and student.



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WebPA® Briefing paper for Senior Managers

A few key ones are listed below:

- academics save time and reduce their workload
- academics are able to assess hard-to-measure outcomes such as group working and leadership
- students have an opportunity to reflect upon the group work process
- students develop a better understanding of the assessment process and criteria
- it can have a positive influence on student behaviour
- complaints about the assessment process being unfair are reduced.

There are also a number of benefits to the department and, ultimately, the institution:

- the potential to improve results relating to feedback on national student surveys
- evidence shows that the majority of students are happy to use the WebPA tool and perceive the grades received as fair
- records of assessment are stored centrally rather than on disparate PCs/systems
- the use of WebPA can contribute positively towards quality assurance procedures
- WebPA can be used to support a variety of assessment processes, summatively or formatively
- WebPA can be offered across the entire institution and can influence assessment practice and policy.

How can I support the adoption of WebPA by my department/institution?

Senior management support is always important when implementing a new

teaching tool within a department or institution. Introduction of WebPA will require input from various staff including academics, educationalists or learning technologists and IT support. It may also require funding if a new server needs to be bought or the time of IT staff has to be paid for. Support from senior managers can help the implementation phase go more quickly and smoothly.

How long will it take to implement WebPA?

The time frame for the adoption of the WebPA tool will be dependent on a number of factors including availability of staff to support the tool and the point in the year that the academic tutor wants to use the tool.

It is advisable that anything up to a six month lead time needs to be considered, particularly if the work and support is being provided in addition to staff members' existing roles. Following evaluation of a successful pilot, the roll out of the tool across a department or institution will be very dependent on its support at an institutional level and its championing at an academic level.

Where can I find further information?

For further information, including case studies of effective implementation, please refer to the WebPA resource pack, available at

<http://www.webpa.ac.uk>

BRIEFING PAPER

Briefing paper for IT Administrators

This briefing is designed to offer IT Support and Systems Administrators a quick introduction and guidance to WebPA, an online peer assessment tool.

For further information, please refer to the WebPA Resource Pack or visit the WebPA website at <http://www.webpa.ac.uk>

What is WebPA?

WebPA is an online peer assessment tool that can be used by any institution.

It can support any academic tutor who is using, or wishes to introduce, group work within their teaching practice. WebPA enables academic tutors to set specific criteria for the peer assessment of group work.

Originally developed over ten years ago at Loughborough University, WebPA has been further enhanced through a JISC funded project involving collaboration between Loughborough University, the University of Hull and the Higher Education Academy Subject Centres for Engineering and Physical Sciences.

As a result of this project, the WebPA tool is now available to all higher education institutions through an open source general public licence.

WebPA is an application which uses MySQL to run the back-end database and is written in PHP. As with all open source applications there is no charge for an institution to download, install and use the tool.

As a licence holder your institution will have access to the source code, enabling integration with your institution's Student Information Systems (SIS)

Since the first open source release of the WebPA tool in 2007, a further 17 higher education institutions have adopted WebPA and have begun implementing it with their students. A thriving community of users is rapidly developing.

In 2008, the WebPA tool gained international recognition for learning impact by the IMS Global Learning Consortium. At the same time it was also named '**Best Assessment Support Tool**'.

"We are impressed with the success of the WebPA project and the impact on group work in higher education."

David Kernohan, Programme Manager,
E-Learning Team, JISC

Why is my institution interested in adopting WebPA?

WebPA offers a number of benefits to the academic tutors who choose to use it, not least the opportunity of offering their students a fair means of assessing group work activity.



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WebPA® Briefing paper for IT Administrators

On a departmental/institutional level

WebPA offers:

- an assessment methodology that is readily accepted by students (reducing the number of student complaints regarding of group work assessment)
- a means of storing assessment records centrally
- a standard tool that can be used across the department/institution
- a tool that can help influence, develop and enhance assessment practice and policy.

What is my likely role?

It is likely that you have been asked to install the WebPA software by an academic tutor who is interested in piloting it.

Most installations initially involve a limited number of academic tutors who intend to use the system with small cohorts.

However, experience elsewhere shows that the use of WebPA within an institution can quickly increase as its use becomes embedded and you should therefore consider this possibility when making decisions on the resourcing and support required.

What will I now need to do?

In order to install WebPA you will need to take certain steps and make certain decisions:

- assess the potential costs of installing and running WebPA both in the short and long-term (See the Resource Pack for more detailed advice on how to do this)

- establish whether you can provide the resourcing and support required
- identify the skills that may be required and establish whether such skills are already available to you
- decide whether to install on a shared local server or, with the possibility of long term engagement in mind, on a dedicated central server
- decide whether you wish to tailor or configure WebPA to your institutional needs (for example, you may require the application to reflect corporate or departmental colours, style, appearance etc.)

What additional steps should I take?

In addition to those listed above, you might wish to:

- join the WebPA JISCmail list (<http://www.jiscmail.ac.uk/lists/webpa.html>) where new releases, patches and other relevant information will be posted
- join the community of other WebPA users <http://webpa.ac.uk/?q=node/487> from where you can get advice, support and guidance.

Where can I find further information?

For further information please refer to the WebPA resource pack, available as hardcopy or online at
<http://www.webpa.ac.uk>

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A Community of Users

WebPA will survive and develop further in the long term if an active community of users works together to achieve this. Join the community in either a passive or active manner if you use or support WebPA. Make use of the community for the following:

Email support for solving problems

General enquiries can be posted on the JISCmail list at <http://www.jiscmail.ac.uk/lists/webpa.html>. Members of this list are not only the people using the tool with students, but also those who have a vast knowledge on the best ways of addressing an issue, fixing a problem or, at the very least, pointing you in the right direction.

Generally, there are no silly questions, as what is puzzling you will more than likely be confusing someone else as well. However, there are ways in which you can ask a question that will get better results. Make sure you use a meaningful title/subject line and that you try to be precise in the information that you are giving and don't assume people will know what you are talking about.

For more guidance on how to phrase questions see <http://www.catb.org/~esr/faqs/smart-questions.html#id272405>

But before you start, don't forget to check the archives and ensure your question has not already been answered.

Discipline specific support through the Higher Education Academy Engineering and Physical Sciences Subject Centres

As WebPA was developed in the engineering discipline and then initially expanded to physical sciences there are many academic users in these areas. These subject centres will provide limited support and information on WebPA and the

Engineering Subject Centre (engSC) is supporting a related special interest group for 2009/10. Find out more at <http://webpa.ac.uk/?q=node/487> <http://www.engsc.ac.uk> and <http://www.heacademy.ac.uk/physsci/>

Reporting bugs

Bugs should be reported on SourceForge where WebPA is downloaded from. Guidance on how to report bugs can be found at <http://www.webpa.ac.uk/?q=node/415>.

Helping to develop WebPA further

If you are interested in supporting the future development of WebPA as an open source tool, then join the associated community of developers who share knowledge, discuss the future developments of the project and pitch in to achieve common goals. Everyone is welcome to join the community, you don't even need to contribute until you are ready. Introduce yourself at <http://lists.sourceforge.net/lists/listinfo/webpa-developer>. You can find out more about participating in open source communities at <http://www.oss-watch.ac.uk/resources/toptipscommunities.xml> and contributing code at <http://www.oss-watch.ac.uk/resources/contributing.xml>



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WebPA Student Surveys

As part of the evaluation activity undertaken by the WebPA Project or pilot implementations, student surveys were conducted at Loughborough University, the University of Hull, and the University of Leeds.

These surveys were conducted independently of each other with each survey being developed separately at each institution to address individual needs, and thus each having a different focus. This makes cross-institutional comparisons challenging. Nevertheless, key points do emerge.

This report includes:

- a summary of the survey approaches adopted by each institution
- key messages arising regarding students' attitudes towards group work
- key messages arising regarding students' attitudes towards peer assessment of group work
- the students' experiences of using WebPA
- general conclusions derived from these surveys.

Survey approach adopted by each institution

Loughborough University

Two surveys were conducted at Loughborough by the WebPA team.

The first survey involved a paper-based questionnaire issued to a single cohort of students from a single engineering department. This resulted in 51 responses (a 74% response rate). The main focus of the survey was on capturing the students' experiences and attitudes towards both peer assessment in general, and WebPA in particular. A brief report was produced in January 2008 summarising the results arising (not available publically).

The second survey involved an online questionnaire which was circulated to all students across the University who

had used WebPA during the 2007-2008 academic year. The majority of questions were the same as those used in the initial survey, thus allowing some comparative analysis to be made carried out between the two. This second survey generated 386 responses (an 8.5% response rate) from students across 12 different academic departments. A brief report was produced in August 2008 summarising the results arising (not available publically).

The University of Hull

Two separate student cohorts (of Biology Students and Chemistry Students) were surveyed. Prior to using WebPA both sets of students were questioned about their experience of group work, their preferences with regard to group work, and their confidence of using IT systems.

After using WebPA the same cohorts were surveyed to measure any impact or change in attitude resulting from the experience.

In total 177 students responded to the pre-survey and 110 students responded to the post-survey. A brief report was



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produced summarising the findings arising from both surveys.

The University of Leeds

At Leeds a small cohort (29 Design students) were surveyed following a group work exercise involving peer assessment through the use of WebPA. The students were asked a series of questions designed to measure their response to the experience. A summary of the results arising was produced in December 2008.

Students' attitudes towards group work

The surveys conducted at the University of Hull, and to a lesser extent Loughborough University, generated data on students' attitudes towards group work as a learning medium/experience.

In general students had very positive feelings with regard to group work activity.

At Hull the vast majority (93%) of students responding had had previous experience of group work. A large proportion of respondents (78.2%) stated that they "*enjoyed working in groups*".

The benefits of group work that the students identified included:

- it enabled them to help and support each other
- it allowed them to share knowledge and information
- it provided insights into alternative perspectives and methods of working

- it allowed for the workload to be shared
- it enabled them to tap into different strengths and competencies
- it helped to generate more ideas
- the social aspect provided a more enjoyable working/learning experience.

An interesting aside note relating to the survey at Hull demonstrated a dichotomy between those who favoured the use of web technology as a means of enhancing group work interaction (through e-mail, discussion boards etc.) as a means of enhancing group work interaction and a sizeable proportion who declared a strong preference for face to face engagement.

At Loughborough a significant majority of students (74.3%) expressed a preference for modules to include a mixture of group work and individual coursework.

A sizeable proportion of the students (45.8%) expressed a preference for groups to be "self-selected" over other means of selection (e.g. seeded groups).

With reference to the benefits of group work for students, a significant proportion of the respondents at Loughborough identified group work as contributing to the improvement of their communication skills (75.5%), team working skills (78.4%) and problem solving skills (59.6%).

Students' attitudes towards peer assessment of group work

The surveys conducted at Loughborough University and the

University of Leeds generated data on students' attitudes towards peer assessment of group work.

Loughborough University

At Loughborough both surveys generated similar responses. Students expressed a clear preference for carrying out group work **with** a peer assessment element (77% through the online survey, & and 72.5% through the paper-based survey). By comparison only 14.3% (online survey) and 7.8% (paper-based survey) of students expressed a preference for group work **without** a peer assessment element.

Through the online survey similarly large proportions of students stated that they were:

- comfortable with assessing their own performance (79.8%)
- comfortable with assessing the performance of team members (87.1%)
- comfortable with team members assessing their own performance (70.4%)
- confident that their assessment would remain anonymous (73.3%)
- satisfied that the assessment was fair (63.1%).

The results arising from the paper-based survey showed similarly positive responses.

Other interesting responses (received through the online survey) included:

- a small majority of students who stated that self and peer assessment had increased their motivation to carry out group work tasks (51.3%)

- a majority who expressed that relationships they had built up with team members had influenced the scores that they gave (59.2%)
- and a significant minority of students who stated that they did more work because they knew they were being assessed by their peers (38.2%).

Again, these response rates were mirrored in the paper-based survey.

Additionally, a significant majority of students stated that the experience of peer assessment had improved or much improved their skills in peer appraisal (77.7%) and self reflection/appraisal (72.6%) skills.

In measuring the impact of peer assessment a small majority expressed the opinion that it had had a positive impact upon overall performance (54%) and the standard of the work produced (53.4%). By comparison only 3.1% of respondents felt that it had had a negative impact. (The question of impact had not been included on the paper-based survey).

University of Leeds

The generally positive attitudes towards peer assessment found at Loughborough University students were more or less reflected in the survey conducted at Leeds, although this survey used a different set of questions.

Here a significant majority (90%) of students described the use of peer assessment as "fairer", with 92% of respondents of the opinion that they had assessed their peers' work fairly, and 80% feeling that their own contribution had been fairly marked.

Other notable results included a majority of students (63%) who felt that they learned more when team work was peer assessed, and a significant minority (46%) who felt they contributed more when work was peer assessed.

In response to the question “*to what extent do you think that peer assessment should affect a student’s mark for the peer assessment assignment?*” it was interesting that, despite the overwhelmingly positive responses noted above, that a significant majority of students (70%) felt that peer assessment should not contribute more than 40% of the total marks allocated, with half of these feeling of the opinion that the contribution should be less than 10%.

This survey invited free comment which allowed students to touch upon a number of issues, with the issues of feedback, anonymity, and fairness being readily discussed. Notable comments included:

- *“There is no need to see who said what, but it is helpful to know how the others have viewed your contribution so that you know what to work on for next time.”*
- *“I would be interested to know how I was marked but making it anonymous makes people answer more truthfully.”*
- *“I think that for the work to be peer assessed is good, but I do not think that these scores should affect the final marks in a huge way.”*

Students’ experience of using WebPA

The surveys at each of the institutions involved touched upon - to a greater or lesser extent - the students’ experience of using WebPA.

Students commented favourably upon the ease of using WebPA to record their self and peer assessment. The larger of the Loughborough surveys resulted in an overwhelming majority of respondents agreeing with the statements:

- *“It was easy to access WebPA to submit my marks”* (91.1%)
- *“I felt that WebPA was secure”* (90.9%)
- *“I was provided with enough information about the assessment within the software”* (80.7%)
- *“The marking scheme/criterion were easy to understand”* (80.4%)
- *“The WebPA software was easy to navigate”* (92.2%).

In addition, only a relatively small proportion of respondents (25.7%) felt they needed to use the “Help” option within WebPA when completing their assessment.

The majority of students responding to the Loughborough survey (54.3%) remarked that, given the choice, they would like to use WebPA in other modules on their course.

Similarly positive responses were given by those surveyed at the University of Leeds and the University of Hull.

At Hull, the two cohorts of students surveyed after using WebPA commented that it was easy to understand and apply the marking scheme (92% and 97%). Similarly positive responses were provided as to the fairness of the marking scheme applied (84% and 91%). A good positive conclusion from the survey at Hull was that there was “*no negative impact on the students’ enjoyment of group work*” arising from using WebPA.

At Leeds, students commenting on the use of WebPA to record self and peer assessment noted that it was “easy” to provide assessment of their peers (80%), and that the prompts provided allowed them to comment on all relevant aspects of their peers’ contributions (84%).

General conclusions

In reviewing the surveys conducted it should be noted that, as different surveys were conducted at each of the three institutions involved in the evaluation exercise, that comparisons are difficult.

Nevertheless, the relatively large sample sizes involved at both Loughborough and Hull, and the commonality and strength of responses received, allow us to draw key conclusions from the data arising with a high degree of confidence in their reliability.

These conclusions are that:

- students believe that group work helps them to develop key transferable skills such as communication, problem solving, and team work
- students have a preference for an element of self and peer assessment to be part of the assessment process
- students do not feel that marks derived from peer assessment should exceed 40% of the total marks allocated for a group work exercise
- students feel that peer assessment of group work increases their motivation to work well
- students consider peer assessment to be a more “fair” method of assessment
- students on the whole believe that peer assessment has a positive impact upon group performance
- students feel that feedback, anonymity, and fairness are key issues in relation to peer assessment
- students like WebPA and find it to be straightforward and easy to navigate/use
- students would like to use WebPA more for peer assessment of group work when appropriate
- there was no negative impact on students’ enjoyment of group work arising from the use of WebPA.

- students enjoy the opportunity to engage in group work
- students recognise a number of learning opportunities and benefits arising from engaging in group work

