

Online Peer Review Assessment

Study Author: Phil Barker, Learning Technology Advisor, LTSN Engineering
Tutor in Study Dr John Williams, Electronic Engineering, Aston University.
Subject area: Electronic Engineering; topic area: Internet Technology.

This case study has been developed from data gathered through interviews with the tutor; and a student questionnaire and interview.

Background

The Telecommunications Perspectives module is part of an M.Sc. programme in Internet Technology that is taken by 15-20 students per year. The learning outcomes of the module are for students to demonstrate:

- the ability to research and condense technical information;
- the ability to critically review and appraise it and form an opinion of its accuracy and worth;
- independence in taking responsibility for their learning.

The students on the course are typical for a such a masters course, most have a first degree, the majority are international students, and all are assumed to be familiar with IT.

For half the module credit, students are required to write ten short articles each giving a critical appraisal of a technical subject of their own choice within the scope of the degree. Having written an article they upload it to the online peer review assessment system via a form interface, for review by other students using a structured questionnaire. A student may not submit a second article until he or she has reviewed someone else's. The marks awarded by students, after normalisation for over generous or over picky marking, are the basis of the mark awarded to the writer of the article for this half of the course. If necessary the tutor can assess articles, and he can step in to remove unfair or incorrect marks. This half of the course runs without conventional lectures, though there is an introductory session during which the tutor explains what the students are expected to do and reassures them about the fairness of the approach.

The tutor is familiar with programming and was able to create an online system which was tailored to his requirements. This system has been prototyped and refined over the last four years. Apart from writing the system no special arrangements were needed to set up or run this exercise.

Reasons for introducing this teaching method

This part of the masters programme is partially intended to widen the syllabus of the course beyond the topics that are taught formally. The key skills of how to appraise work, analyse and summarise technical reports and general writing skills cannot easily be addressed in any taught part of the course, yet these are skills which will be required of the students when they go on to work in industry or research.

The tutor had seen websites which solicit user contributions and permit reviews and had seen the possibility of using a similar system in a more formal way for education: he says, "*students learn from doing things not from me telling them things*". Existing off-the-shelf systems such as VLEs did not meet the tutor's requirements, and so he wrote his own.

Lecturer Perspective

The technical authoring of the system was not too difficult for the tutor given his high technical expertise in this area, however he did describe the effort as "*somewhat substantial*". Having written the system from scratch he has created something which he can very easily customise "*I wrote it myself, I'm not stuck with what someone else provided*".

The approach is designed specifically to mesh with the learning outcomes of the course, which it addresses directly. The tutor admits that there is a case to be made for marking the quality of the student reviews, and he has considered this. However, he judges that the time required for this would be prohibitive.

The tutor is aware of some initial reluctance on the part of his students when faced with something new / different from how they are accustomed to learn. The international students in particular may find this

approach alien. He describes the initial introductory lecture as "*critical*" in addressing this issue. Being a masters course, the tutor judges that the students are mature enough to take responsibility for their own learning and to be honest and constructive in their reviewing; he says he rarely has to deal with unfair or inaccurate reviews.

Student Perspective

Note: The student response for this evaluation was disappointingly low, only one questionnaire was returned and only one student interviewed. However, a previous evaluation of a similar systemⁱ may also cast some light on the student perspective.

The previous evaluation stated that:

"... half of the students thought that their use of [online peer review assessment] had increased their depth of understanding of Telecommunications Technology along with their motivation to learn the subject, [however] the general consensus was that they had spent far too long using the system."

The tutor explained that the amount of effort from the students was in line with what he would expect for the credit given. The students also

"... found it useful that they were allowed to choose whichever topics they liked to write articles on and were not restricted to a list of topics put forward by their tutor. This allowed the students to research areas of Telecommunications Technology that were of particular interest to them."

The student who was interviewed for this study agreed that the exercise had been useful helped him gain experience in researching and writing about technical subjects, providing constructive feedback to others and in pacing his own work over the course so that the ten required articles could be written in a few hours every week rather than all at the end of the course. There could however be problems with finding articles to review if other students had not been conscientious in submitting their work throughout the course.

Both the student interviewed and the student who returned a questionnaire commented on technical problems, particularly with images and the ability to correct a report or review after it had been submitted. However the student interviewed felt tutor provided good technical support and fixed problems as they were reported.

The student interviewed also had some concerns about his perception that groups of students marked each others work high, or that individual students engaged in tit-for-tat retaliation when given a low mark: he felt that the feedback needed more stringent reviewing by the tutor.

Issues

- There is a case to be made for assessing the students' reviews, however the lecturer felt that the effort involved would be prohibitive.

Benefits

- The tutor has found that this half-module requires less effort from him than a normal half-module would take (excluding the "*somewhat substantial*" effort to get system up and running). There have been fewer moderation issues than he expected: "*I had expected to have to deal with problems on a regular basis: that has not been the case*".
- Students are able to extend their study beyond the subjects covered by the formal course syllabus to subjects in which they have a particular interest.
- This approach is not just an assessment technique, it also provides a resource—an encyclopaedia—which the students are developing for themselves.

Reflections

While the technical effort and expertise required for this particular implementation may be too much for many tutors to replicate, this use of online peer review assessment has been successful in allowing students to take responsibility for their own learning and for extending learning outcomes beyond what can be offered in a fixed syllabus and what can be achieved through traditional teaching or presentation of course material on web pages.

ⁱ See A Wallace (2001) "Case study of Zope (Ver 2.2): Web-based peer review system" available at <http://www.ltsneng.ac.uk/resources/?restype=swc&keyid=30>