

peerwise.cs.auckland.ac.nz

Information for instructors

This document, intended for instructors considering using PeerWise, gives a quick description of the tool and outlines some of the potential benefits to both students and staff. It includes a few suggestions for using PeerWise in your course and for motivating students.

What is PeerWise?

PeerWise is an online repository of multiple-choice questions that are created, answered, rated and discussed by students. At the beginning of term, each course using PeerWise starts with an empty repository which grows gradually as the course progresses and students create and critique relevant questions. All activity remains anonymous to students, however instructors are able to view the identity of question and comment authors and have the ability to delete inappropriate questions. In practice though, instructor moderation is almost never necessary. PeerWise is often used with very little staff involvement.

Benefits to students

PeerWise provides a number of learning opportunities to students:

Designing questions: Generating a question requires students to think carefully about the topics of the course and how they relate to the learning outcomes. Writing questions focuses attention on the learning outcomes and makes teaching and learning goals more apparent to students.

Choosing distractors: The act of creating plausible distracters requires students to consider misconceptions, ambiguity and possible interpretations of concepts.

Writing explanations: Explanations require students to express their understanding of a topic with as much clarity as possible. This acts to develop their written communication skills and deepen their understanding.

Answering questions: Answering questions in a drill and practice fashion reinforces learning, and incorporates elements of self-assessment. Students are shown how others have answered the same questions, allowing them to gauge how well they are coping in the course.

Evaluating quality: Evaluating existing questions incorporates higher-order cognitive skills, requiring a student to consider not only the content, but what makes a particular question more effective than other questions.

Benefits to instructors

PeerWise also provides a number of benefit to instructors.

Early feedback: Instructors can see how students are answering individual questions in real-time, and can identify and address common misunderstandings in a timely fashion. Analysing student comments can reveal further insight into the student perception of topics within the course.

Large test banks: The development of MCQ test banks is a very time consuming activity, and placing this in the hands of the students is a fast, low cost way for instructors to have access to a large body of MCQ test items designed specifically to test the course content.

Student confidence: By evaluating the topic areas that students have created questions for, instructors can get a sense of which topics students are more confident with and which topics students are not engaged with.

Large classes: PeerWise performs well in large classes. The number of high-quality questions is greater and students therefore have access to a higher number of effective questions.

Suggestions for use

Below are a few recommendations for incorporating the PeerWise activity into your course. These are intended as suggestions only – other approaches may also work well:

Assessment: it seems to work well to allocate a small percentage of course marks for participation. This ensures that enough students contribute questions to make the repository worthwhile, and it shows students that their instructor regards the activity as important. Typical values are around 2-5% of the students' final grade. Allocating these marks only for participation eliminates the need for grading the student questions.

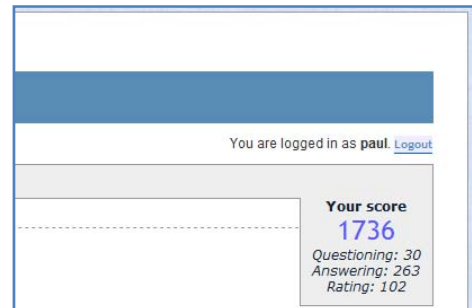
- *Suggestion:* 2-5% for participation

Contribution requirements: it seems reasonable to expect students to spend between 30 and 60 minutes to develop a good quality question on a topic they have researched, and to provide an accompanying detailed explanation in their own words. In courses with a high workload, requiring students to contribute too many questions may be perceived negatively and may lower the overall quality of the repository. Typical requirements may have students contributing 2 or 3 questions over the course of a 10 week term. Students are generally willing to answer questions on a voluntary basis, so a requirement of 20 answers per term would usually be easily achieved. In addition, it is a good idea to encourage students to evaluate the questions they answer, and when appropriate provide constructive open-ended comments. The question authoring and answering deadlines could be spaced out over the term to avoid a large amount of activity on a single deadline.

- *Suggestion:* 2 or 3 questions / 20 answers per term

Motivating students: a simple way to motivate students is to let them know that good PeerWise questions may be used in formal tests or examinations. Adding some of your own questions can encourage students to participate. There is also a leaderboard, which displays the "Top rated questions", "Most questions answered", "Most *answered* question contributor", "Most *agreed with critic*" and "Most *followed* question author".

There is also a scoring system which can be used to motivate students. The scores appear in the top right hand corner of the Main menu. Each score is composed of individual scores for question writing, answering questions and rating existing questions. The total score is a function of these component scores, and is maximized by achieving a good score in each component.



The component scores are maximized by participating early and making contributions that are valued by other students in the class.

If time and funding allows, awarding a small prize to the top scorer or top contributor on one of the leaderboard tables, or for any particularly good contribution you find, can be a good motivator.

Contact

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