

AUTOMATIC AND ONLINE STUDENT ASSESSMENT OF TEXT

A complete system has been developed that allows a lecturer to create an online self- and peer-based assessment exercise. Software and supporting material are now available for use by lecturers to create an assessment for their students, consisting of a question and marking criteria. The software was designed to permit a lecturer to create a text-based exercise to be marked by criterion-based referencing by both the student author and their peers. Students can be provided with guidance for marking and giving feedback. The programme interface has been designed to be straightforward to use for both the lecturers designing activities and the students completing the exercises.

An example question within the Biosciences is:

"Write a paragraph on the size of typical prokaryotic and eukaryotic cells and comment on the reasons for differences in size between these types of cells (160–200 words)."

After creating and submitting their answers, students then complete a self-assessment of their work, and then two anonymous peer assessments. In the case of the question above, an example of the criteria used to assess the work is:

"Did you say that generally prokaryotic cells are smaller than

Right, an example of peer assessment completed by a student using the marking criteria provided by the lecturer

eukaryotic cells? (10 marks)".

Up to 12 different criteria can be specified and the marks awarded for each criterion can be the full amount, or a selectable number.

The results of the assessments are emailed (and texted to their mobile phone if required) to the students anonymously, although a record is retained that can be examined securely by the lecturer to see who provided which peer marks and comments. Lecturers can tutor mark all, or a portion, of the answers. Full results of self-, peer- and tutor-marking are available for reporting.

The programme can be delivered from within virtual learning environments, or as a stand-alone activity linked from web pages or email messages. A number of examples are available to demonstrate the programme, but it is recognised that successful academic deployment of the exercises requires careful thought and innovation by the tutors. The programme works well as a formative assessment tool, although using the marks gained



for low-stakes summative assessments would also be appropriate.

The programme and supporting web-based material are available for free use with the UK educational institutions at:

<http://www.dundee.ac.uk/learning/leu/ilt/selfpeer.htm>

This website provides access to the programme and contains some guidance (700 words) that can be edited as required by instructors and provided to students to assist them in their learning about assessment. It specifically deals with describing criteria-based and

norm-based reference assessment, which may be new concepts for students, and also provides advice on how to make constructive comments in feedback.

A new feature recently developed is the ability to carry out checks for copying, collusion and plagiarism. All of the student material submitted is checked automatically against all other work submitted. Lecturers may submit their own notes, and extracts from textbooks and commonly used websites to permit the detection of plagiarism. The software searches the submitted material for matches of six word strings or longer and presents these in a report to the lecturer.

Analysis of initial use of the programme illustrates that tutors and students appreciate the opportunity to get involved in the assessment process. Examples of student comments on the system are presented here.

"A great learning tool for the students. Enjoyable too, better than the labs..."
"Useful for understanding what markers look for in a piece of work..."
"It was interesting to see how the marking process takes place, and how you can have an essay that in its own right is well written but does not contain the points needed by the marker..."
"Assessing others gives me comparison to my own..."
"Good to see how we can improve our work by our mistakes..."
"Useful for the ability to receive results via text message..."
"It was good to be able to compare your own work with others and offered an insight into the basic processes staff must use..."
"Makes you realise that you need

Paragraph on prokaryote and eukaryote cell size - Microsoft Internet Explorer

Peer Assessment 1: (please tick the boxes or select marks as appropriate)

| | |
|--|---|
| 1 Did you use a spell checker (may have shown as red underlining) and carefully proof read your answer so that it was largely free of typographical errors? (max 10 marks) | 6 Did your paragraph start with an introductory sentence and finish with a concluding sentence, and was it informative and easy to read? (max 10 marks) |
| <input checked="" type="checkbox"/> Did you say that generally prokaryotic cells are smaller than eukaryotic cells? (10 marks) | <input type="checkbox"/> Did you include diffusion as a major reason for the small size of prokaryotic cells? (10 marks) |
| <input checked="" type="checkbox"/> Did you name a eukaryotic example? (5 marks) | <input checked="" type="checkbox"/> Did you name a prokaryotic example? (5 marks) |
| <input checked="" type="checkbox"/> Did you include typical sizes for a prokaryotic and eukaryotic cell? (5 marks) | <input type="checkbox"/> Did you mention cytoplasmic streaming that occurs in many eukaryotic cells? (5 marks) |
| <input type="checkbox"/> Did you say that eukaryotic cells frequently contain many organelles? (10 marks) | <input type="checkbox"/> Did you mention that eukaryotic cells have membrane compartmentation? (5 marks) |
| <input type="checkbox"/> Did you mention that eukaryotic cells are often part of a multicellular organism? (10 marks) | <input checked="" type="checkbox"/> Did you say that multicellular eukaryotic organisms often have their own transport systems for metabolites? (5 marks) |

Comments to author: Good that you mentioned two examples. However your spelling was very poor and you must provide more detail.

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