

Short Communication

Who Wants to be a Biologist? An Excellent Quiz Tool for Students

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Date received: 19/03/2008

Date accepted: 14/04/2008

Keywords: Quiz, Interactive, Learning

Lectures tend to be a largely passive experience with respect to student learning and it has been shown that engaging students in their own learning can increase their understanding (Bonwell *et al*, 1991). Quizzes have been shown to be a mechanism that improves the student learning experience (Willmott, 2001), and other key factors such as a competitive environment, enjoyment and a good classroom or group atmosphere have been shown to motivate student learning (Perrie, 2003). If these key factors are combined with quizzes they could maximise the students knowledge retention and enhance their learning experience. "Who wants to be a millionaire" is a multi-million pound grossing quiz show popular in over 100 countries from the UK and USA to Kazakhstan and Venezuela (ITV, 2008).

It has a familiar format based on progressively difficult questions presented with a choice of four potential answers. This paper illustrates how "Who wants to be a Millionaire" (WWtbaM) can be adapted to "Who wants to be a Biologist" for use in teaching (WWtbaB).

The Format

WWtbaB is a dynamic quiz format that works well not only in a classroom but also in a large lecture theatre. The rules of the quiz can be changed by the organiser, for example whether the use of discussion amongst students is permitted. The questions can be easily presented on PowerPoint slide templates (Damon, 2000) based on the TV show WWtbaM (Fig. 1a) and supported by atmospheric music similar to that used in the TV show if desired. Furthermore, this atmospheric music may be used for both background music and step up to a 'higher value' question. Lecturers read out the questions with its possible answers, and then allow set time for the students to think and/or talk amongst themselves. Then via a show of hands the students' opinion is canvassed, upon which the correct answer is displayed using an animation on the PowerPoint template (figure 1b). The use of wireless keypads (Burnstein *et al*, 2001) and other such technologies would allow more quantitative feedback on student responses and allow lecturers to achieve a better understanding of student learning.

The test progresses with the accompanying music to the next question. Unlike the TV show there is no 'going out' of the quiz and a student does not stop playing by getting a question wrong: instead they keep a score of their correct answers. When using the WWtbaB Format with a smaller audience the use of 'life lines' as used in the WWtbaM TV format could be employed.

Question Bank (Bacon, 2008) offers novel subject specific questions presented in a easily searchable format such as many examples of traditional multiple choice questions (MCQ) which can be incorporated directly into popular learning environments such as blackboard and WebCT. Tools such as Question Bank could be used a repository for MCQ to be used in a

WWtbaB style or contain PowerPoint 'games' containing 12 questions of ascending difficulty focused on particular topic of subject.

The Benefits

Progressive – The WWtbaB format is series of questions (12 in the real WWtbaM UK version of the quiz) that progress in difficulty as the quiz proceeds. This progression allows students to measure their learning/knowledge against the levels. If the WWtbaB quiz format is repeated throughout a course or module it allows students to easily track their progress and development. The lecturer can help quantify the levels of the questions by instead of questions having a monetary value having a difficulty level from 'very easy-to-very difficult'

Confidence generating – WWtbaB is very good at boosting student confidence, the quiz format

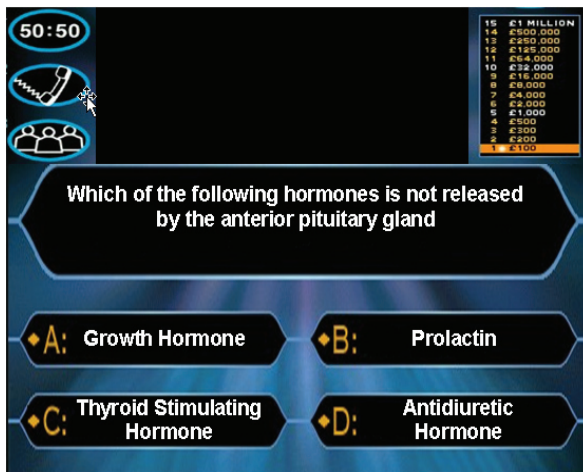


Figure 1a An example of the WWtbaB question format showing the presentation of the question and four answers

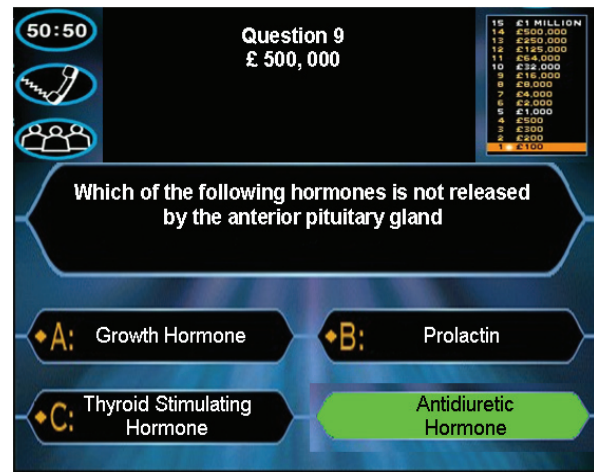


Figure 1b the use of animation to display the correct answer after student discussion

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allows students to judge their level of knowledge or areas of weakness but without the pressure of a summative assessment.

Four Questions for the price of one – WWtbaM is an invaluable learning tool because each question potentially delivers four pieces of knowledge. By ruling out or discussing with peers the wrong answers and/or from the lecturer explaining why the answers are incorrect a student learns more than the correct answer alone.

Entertaining and Atmospheric – The format of the quiz is well known by many students and can be easily picked up by others. The use of music helps to make the quiz enjoyable and atmospheric. The show of hands to indicate which answer a student thinks is correct induces an element of competition which makes the quiz much more entertaining.

Discussion generating – in a large lecture room or classroom where debate is often very difficult to orchestrate the use of WWtbaB helps and encourages students to discuss the potential answers to any question with those sitting around them.

Prompts those with no knowledge – Perhaps the most useful element of WWtbaB is that it promotes lateral thinking; it allows students who have no idea of the answer to a question to use other knowledge to rule out answers from those provided. Students, if allowed to debate, can often successfully generate a correct answer just by using their powers of deduction.

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