

AQA: e-Assessment Case Study



BACKGROUND

AQA is the largest awarding body for GCSE and GCE examinations, marking and processing over 8 million papers in 2008/9. We have been heavily involved in developing technology that enables on-screen marking of paper-based examinations, and for the past three years we have offered high-stakes mainstream examinations on screen. This on-screen testing work forms part of our TEAL Programme (Technology Enabled Assessment for Learners), launched in 2007 to explore new methods of assessment for the future.

FIRST STEPS

AQA first developed on-screen tests for the GCSE Science Specification A modules in 2006. Tests for the six modules at Foundation and Higher tiers are offered in November, March and June each year. The on-screen tests are offered as an alternative to the paper-based objective test questions in which candidates use Optical Character Read (OCR) sheets to record their answers. They consist of about 25 questions – either multiple choice or ‘drag-and-drop’ – and are as close as possible to the paper tests on which they are based.

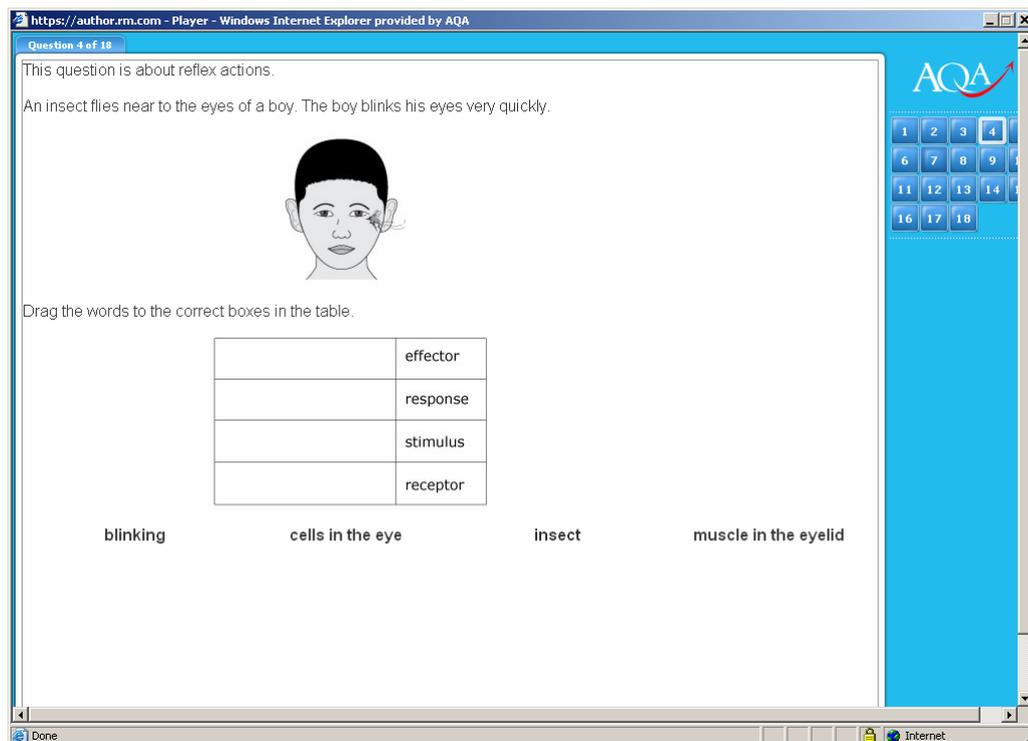


Figure 1: Example of a science on-screen test question

Since 2006, there has been a steady growth in the uptake of on-screen testing (see Figure 2). In 2008/9, students sat over 10,500 on-screen tests for the GCSE Science modules, and so far 122 centres have been involved. This growth has been achieved without any major promotion of the on-screen tests.

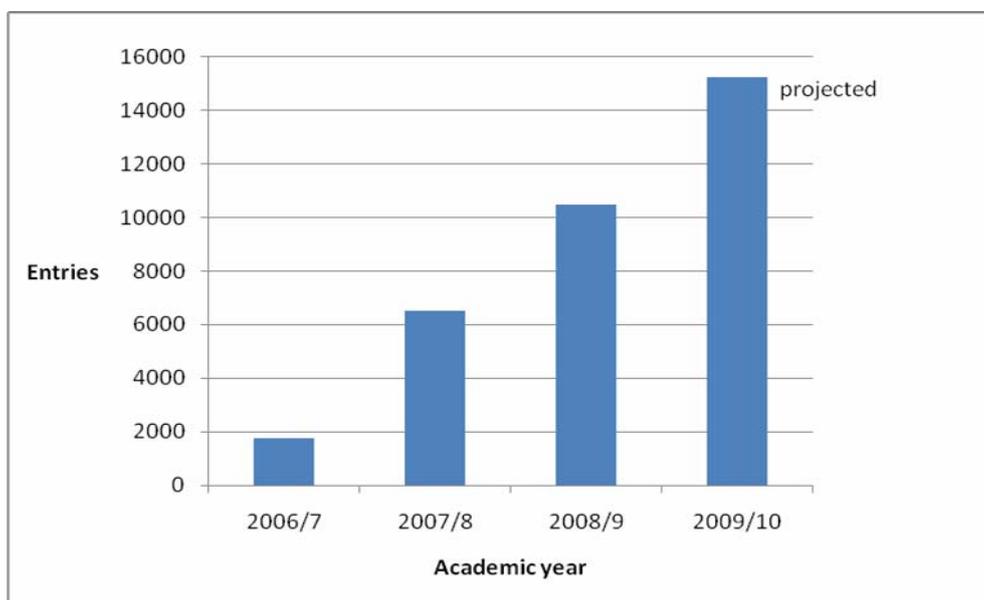


Figure 2: AQA GCSE Science Specification A on-screen test entries, 2006–2009

WHY ON-SCREEN TESTS AND WHY IN GCSE SCIENCE?

The main reason for offering tests on screen is that this is the way that students now work. They do not sit down and write for significant periods of time. They are used to communicating via a keyboard or alpha-numeric key pad and to typing homework and coursework. The only time we ask students to write for extended periods of time is when they sit an exam. Given the rapid growth of technology and changes in how we use it, this is an issue that we need to address.

... because our generation are more into computers than writing on sheets of paper. Yeah, it was fun actually.

GCSE Science student

The rationale for choosing to offer these GCSE Science modules as on-screen tests was that it was a straightforward process to transfer the type of questions used to an on-screen environment. Although many teachers were sceptical, research had shown that a significant number of candidates were keen to sit exams on screen, rather than using pen and paper. This is not surprising: most candidates are 'digital natives', people who have grown up in a computer dominated age where they communicate and lead their lives interacting with digital technology. Many teachers, on the other hand, are 'digital immigrants' who have come to use digital technology later in life. Our research showed

that Science teachers were one of the groups most open to the use of on-screen tests, so they were more likely to take up the opportunity to use them.

**It is easier for students to focus online.
They use technology day in and day out.
They are very comfortable with it.**

Science teacher

Another advantage of on-screen testing is that it increases accessibility. Candidates with physical disabilities can use their own computer interface, set up, for example, with an adapted keyboard and mouse or joystick. This enables them to answer the test questions themselves, rather than having to use a writer as they would for a paper-based test. The ability to amend screen colour and pattern and to use a screen magnifier allows greater access for those with a visual impairment.

APPROACH

In line with AQA's existing practice with e-marking and e-standardisation, we decided to take a cautious approach to the introduction of on-screen tests. It was important that we thoroughly understood the process and trained our staff in the skills they needed to support it. Given that initial entries were likely to be low, we decided that the questions in the on-screen test would be almost identical to those in the paper based exam. This was to ensure that the tests were of comparable standards and to explore any issues that arose.

As the number of entries has increased, it has become apparent that the entry patterns for the on-screen tests are not the same as for the paper ones. The proportion of Foundation tier entries to Higher tier is between 3 and 4 to 1, depending on the module. We maintain standards through our rigorous awarding procedures, in the same way as we do for written tests that have optional papers or assessment routes.

AQA offers extensive support to centres in the administration of on-screen tests. We also provide familiarisation tests that teachers can walk through with their pupils and that candidates can sit as mock exams. This allows them to familiarise themselves with how the on-screen format works, to experience the different types of questions and to gain an understanding of how to answer them. The feedback we have received from centres has been positive, supporting our approach to date and directing our course for the future.

Before, many of these students would not even bother to show up for a paper-based exam, but they did bother for on-screen and also engaged with the material much better.

Examination officer

Our research with centres indicates that they feel that the format of the on-screen test allows candidates to focus on the science behind the question, rather than on the logistics of selecting the correct answer and transferring their responses to the answer sheet correctly. For some candidates taking the Foundation tier exam, completing the OCR sheets can be a challenge. Because it is something they only do in exams, they are more prone to making mistakes and can become flustered. However, as these candidates are used to manipulating images and data and selecting and moving items on screen the on-screen test is more in line with their usual ways of working. In other words, it is a fairer assessment of their understanding of the science than the equivalent paper version.

The pupils actually wanted to go and do them on screen ... so it was better motivation.

Science teacher

THE FUTURE

To date, we have only used on-screen tests for objective questions with a limited number of question styles. However, the TEAL Programme is developing different question types. Any examination that can be taken using pen and paper can be taken on screen. The key to making sure that the technology does not inhibit the candidate is to use question types which are familiar to them. Therefore, we must continue to provide ample opportunity for the candidate to practise on-screen test questions. The main points to keep in mind are:

- what we are trying to assess;
- how will it be assessed; and
- how can assessing it on screen enhance the assessment while maintaining validity.

What is important is that the requirements of the assessment drive the technology; the technology should not drive the assessment.

AQA has also successfully used on-screen tests in the Functional Skills pilots and plans to roll out on-screen testing more widely across its specifications.

Oh, can we do our exams like this again?

GCSE Science student