

Brave new world

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E-assessment is no longer a far-flung concept in academic textbooks. It is set to become a permanent fixture in the UK's examination system

They might look like a futuristic scene from a 1950s sci-fi movie, but classrooms with interactive whiteboards, broadband and CCTV have become a 21st-century reality. At the same time, the way students are now assessed and examined has been catapulted into the future, with e-assessment, in particular, expected to become increasingly routine over the next few years.

According to Dr Ken Boston, chief executive of the Qualifications and Curriculum Authority: "The key stage 3 ICT test is gaining a reputation as one of the most innovative onscreen assessments available in the world." The project won two prestigious awards in 2005: the Computing Awards for Excellence Innovative Project of the Year, and the e-Government Excellence Award. "The 2005 pilot was well-received by teachers and pupils, and these awards are a sign that e-assessment has a key role to play in the future of education," says Dr Boston.

Last year, the QCA laid out its five-year blueprint for making e-assessment a reality for schools and colleges across the country. Its goals include the introduction of on-demand GCSE examinations – whereby candidates take the tests when ready – and 10 new qualifications specifically designed for electronic delivery and assessment by 2009.

How it works

Essentially, there are two components of e-assessment: e-marking, where scripts are marked online but the experience remains unchanged for the candidate; and on-screen

assessment, where the candidate takes the test on a computer.

In some universities, e-marking has been a way of life for several years. At the University of Southampton, for example, Dr John Wollard, lecturer in IT education, has been assessing the coursework of Masters students online for seven years and finds the marking process much more efficient. Since he marks Word documents, he can check spelling and grammar, and use the 'Find' function to search for concept words.

More recently, awarding bodies have also begun to offer e-marking for exams taken in schools and colleges. The Assessment and Qualifications Alliance (AQA) first piloted e-marking in the summer of 2002. In January 2005, it embarked on its first live experience of e-marking for GCSE French Module 1. By 2007, AQA's target is to have marked 1.5 million scripts online. Last year, Edexcel processed one million scripts online and will be using e-marking to assess more than three million papers this year, which is equivalent to about 15% of all scripts.

Consistent and efficient

Examiners who are involved with e-assessment find that the key advantages are greater control and consistency in examination procedures, according to Andrew Bird, deputy director-general of AQA. "We have better control over how the work is progressing and examiner standardisation is maintained throughout the process," he says. On-screen marking also eliminates many of the common mistakes that can be made in traditional assessment, such as the omission of a mark.

And since most examiners fit in their marking commitments around teaching and

other extra-curricular activities, it's important that it enables them to work flexibly.

"Because our examiners are teachers and have specific time slots when they have to do other work, this gives them much more freedom," says Roger Taylor, chief examiner of the GCSE French modular exam for AQA.

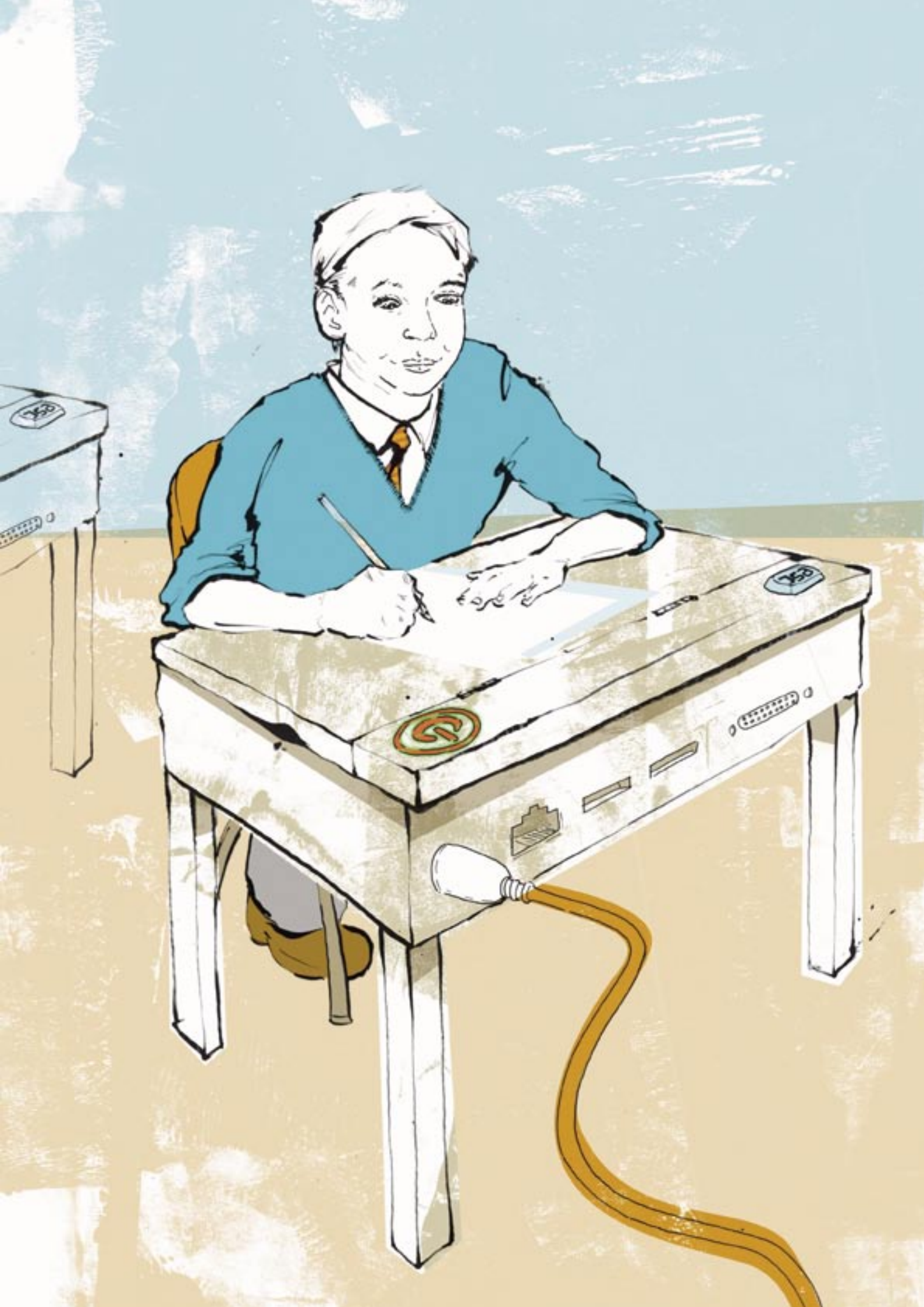
As someone who is also involved in designing exams, Taylor thinks e-marking will help examiners and question-setters become more accountable. It also enables teachers to ready themselves better for exam preparation. "What we have now is a detailed analysis of how each question performed and how every part of the question has been answered," he explains.

Staying in control

One of the most positive aspects of e-marking for Yvonne Wiggall, team leader and examiner for Maths GCSE Higher tier at Edexcel, is the ability to monitor exactly how her team is performing. "I can monitor examiners on a daily basis, which is definitely better for me because I can see if someone is marking a question with a repeated error," she says.

E-marking also enables awarding bodies to use clerical markers more efficiently for specific answers, so they can use qualified examiners in a more suitable way, reducing the recruitment burden in some subjects.

Examiners' experiences so far with e-assessment suggest the move towards computers has not just made life simpler for them, but has also enriched the experience for students – partly because on-screen tests don't feel as 'formal' as traditional exams. The QCA is in the middle of a major project to host Key Stage 3 (KS3) ICT tests on-screen. The 2006 pilots are running from



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Once teachers see what we have done in our projects they are hooked

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2-26 May and the QCA expects around 80% of KS3 schools in England to take part.

Lord Williams's School in Thame, Oxfordshire, was involved in the second phase of the KS3 pilot in 2005. Dr Roger Highton, head of ICT, believes it offered more stimulation for students than a traditional exam. "It adds a new dimension to testing," he says. "It can fit the student and get harder if the student is doing well or support the student if he or she is struggling."

Future perfect?

The potential of e-assessment is limitless – the QCA has even been exploring the use of mobile phones for oral assessments at KS3 – but alongside technical developments is a deep concern among examiners that they will have to learn new skills.

Understandably, there have been some teething problems in getting to grips with the technology. Resizing the screen for the best view proved difficult for some examiners, and some schools expressed concern over whether their existing technology could support a large number of pupils accessing it at the same time.

But examining bodies have gone some way to address these concerns. For example, examiners without a home PC can travel to an Edexcel centre to use a machine there, and those who do own a PC but don't have a broadband connection do not report a discernable impact on their ability to do the job.

Technical issues are straightforward to overcome, but what about some of the cultural issues that arise from moving an age-old tradition of paper-based marking onto machines? Roger Taylor at AQA believes that while the marking process might have changed, it has not necessarily altered the 'relationship' that an examiner develops with a candidate while marking their script. "With listening and reading, you do not feel empathy with the student

In practice: GCSE History

Angela Leonard is Chief Examiner for the Schools History Project for GCSE History at Edexcel. The case study enquiry was marked online for the first time last year. This is her experience of e-assessment

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Any new assessment method means changes and, sadly, on the move to online marking I lost valued colleagues who just didn't fancy it. As with most IT projects, there are initial glitches – home computer issues, the board's stringent firewalls preventing communication with the marking site, forgotten passwords and examiners temporarily unable to mark when we all tried to log on at the same time.

But, after the first few days of learning the ropes together, marking speeds picked up. Not all found marking extended prose on screen agreeable, but it proved to be much more accessible and less alienating than many feared.

One of the best things about e-marking with some subjects is that there's no more admin! No register checking, adding up, or collecting parcels. All of this disappeared with the click of the mouse.

My team was keen to establish a culture of cooperation and support. They could spot immediately if an examiner needed help and they could advise. If marking a particular question was problematic, an examiner could choose to concentrate on others. With continuous support, no examiner had

to fear notification at the end of three weeks' work that the latter part of their marking proved unsatisfactory and scripts would need re-marking.

Marking by question prevents you from seeing individual candidates' overall papers and it's always been fascinating to follow their thinking. That said, we now mark each question on its own merits. Someone said that coming to terms with losing that overall picture feels 'like having to live with permanent disability' but you accept it and move on. After all, the assessment process isn't there to give the chief examiner fulfilment – it's there to recognise the attainment of candidates.

I'm looking forward to this year. There will be fewer IT glitches as examiners get used to the technology and we'll be better at coping with anything new. I hope more old hands come back – especially those who said 'I'll see how it goes first'. All in all, I couldn't ask for a better response than we received from last year's combination of old and new hands.

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because you are filling in boxes," he says. "But working on writing or speaking tests is when you feel closest to the student, and that still exists." Indeed, Taylor believes e-marking enables trained modern languages examiners to focus their expertise solely on these two components, rather than carrying out mundane box-ticking exercises where linguistic ability is not required.

Perhaps another far more pressing cultural issue lies with on-demand testing. "We have exams on certain days and schools and colleges do not have the capacity to sit every student down for an on-screen exam at the same time," says AQA's Bird.

Random selection of questions is one way of mitigating the problem of space, by enabling students to sit exams at different times. However, this requires a large 'bank'

of exam questions, as well as a sizeable cultural shift in current thinking about the assessment process.

Difficulties such as those involved in writing or marking essay-style answers on-screen will also dictate how much assessment can be conducted online.

So, unlike the doom-laden futuristic movies and novels of years ago, the future will not be controlled by computers or a world in which the role of the examiner has disappeared entirely. Instead, it will probably be what many in the assessment community call a 'mixed economy', in which some subject papers are marked online and others offline by trained examiners. After all, the aim of e-assessment is not to implement technology for technology's sake, but to improve the experience for learners, teachers and examiners alike. ■

