

French (37%). In addition, 85% of successful mathematics students who progressed from GCSE mathematics had an A or A* at GCSE mathematics. This is comparable with some other subjects (for example, French – 93%, the sciences – ~80%) but is much higher than for other subjects such as English – 50% and history – 49%. These figures support the argument that if there is to be a large increase it must come from beyond the 'clever core'.

The findings of this research may come as a surprise. There has been no large scale decline in the number succeeding in A-level mathematics. The disappearing mathematicians can be accounted for by changes in the structure of mathematics leading to candidates dropping out rather than failing, and to demographic changes.

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STANDARDS OVER TIME

What happens when four *Financial Times*' journalists go under the eye of the invigilator?

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In the weeks leading up to A-level results day Cambridge Assessment Research Division and its UK examination board, OCR, worked with *The Financial Times* to illustrate certain aspects of A-levels. On Saturday August 20, 2005, *The Financial Times* published the following two articles in *FT Weekend* which are reproduced here with their permission.

Four *FT* experts, and four, surely, of the most awkward and disputatious candidates ever likely to grace an examination hall. Earlier this summer, as the exam results season approached and, with it, the inevitable annual debate over standards, *FT Weekend* had a bright and apparently simple idea for getting to the truth behind the increasingly ritualistic argument: why not get a handful of the *FT*'s brightest and best to sit some of this year's papers? These writers, who live, breathe and even, dare we say it, pontificate about the subjects under consideration every day of their working lives, would then be able to give us their impressions of how today's exams compared with those that crowned their own school years.

Several twisted arms later, Lucy Kellaway, work columnist, James Blitz, political editor, Chris Giles, economics editor, and John Lloyd, editor of the *FT Magazine* and commentator on the media, had agreed to face their demons, and possible public ridicule, by submitting to an ordeal that most of the experts, politicians and critics who annually bemoan falling standards have long put behind them.

Accusations of dumbed down questions, grade inflation and lenient marking have dogged the A-level, once the unassailable 'gold standard', for years now. Every August, opposition MPs, employers, universities and independent schools voice their suspicions that ever-higher results (2005 is the 23rd year of improved pass rates) do not represent a true

step forward in education or attainment. Their comments are reported just as families are waiting anxiously for an envelope from the exam board. Teachers and government ministers then reproach the doom-mongers for casting a cloud over the latest crop of good results, which they insist have been fairly earned by hard-working students.

But this year the pass rate edged up again to 96.2% – with A grades up to 22.8% – and the exam watchdog, the Qualifications and Curriculum Authority (QCA), has admitted that it will hit 100% in the near future.

If all candidates sitting an A-level – still well below half of the age-group – are deemed worthy of an E or above, that will deal a fatal blow to the credibility of certificates, say critics of the system. But, at bottom, the debate is about what an A-level with a near-universal pass rate is measuring and how marks and grades – particularly the A on which top universities have traditionally relied to 'sort' applicants – are awarded. It was this issue that our 'volunteers' agreed to probe.

"They're not going to ask me about Plato's *Republic*, are they?" said an anxious James as he agreed to put his strengths as the leader of the *FT*'s Westminster team to the test by sitting a paper on UK government.

Chris – economics editor of "the world's business newspaper" and preparing to answer questions on the national and international economy designed for 17 and 18 year olds – spotted the downsides with the ruthless insight for which he is feared and famed: "O God, go on then. Put me down for humiliation."

Lucy and John, both parents of exam-age children, took more of a scientific interest and approached their papers – on business studies and media studies respectively – with rather more equanimity.

After much debate about how to carry out the experiment, we decided to work in co-operation with an exam board, largely because we would

then be able to see the markers' comments, giving us more insight into our guinea pigs' performance. Cambridge Assessment – formerly the Oxford and Cambridge board – was quick to caution that if we were expecting our experts to romp home to good grades without any preparation, thus 'proving' that standards had slipped, we were likely to be disappointed. Mindful of Margot Fonteyn's comment at the height of her career that she would probably fail elementary ballet if she had to retake it, we had no such preconceptions.

"All the research demonstrates that older people taking exams targeted at a particular younger age-group tend to do badly – because they simply know too much," said a gleeful Bene't Steinberg, the public affairs director charged with defending the board's standards against the annual accusations of dumbing down.

His colleague Sylvia Green, head of research, explained in more detail: "The journalists will have the advantage of their life experiences but will also have the disadvantage of the passage of time since they studied."

By Sylvia's reckoning Chris, at 35 our youngest candidate, had the edge simply because his was the most recent experience of exam conditions, and there had been less time to spoil his chances of jumping through academic hoops.

"Students do not have the knowledge base of journalists and this may well lead to greater focus on the course curriculum and less writing 'off-topic,'" she said, warning our bright-eyed volunteers not to get too clever.

"The journalists' broader knowledge may also lead them to have more sophisticated expectations of the questions and perhaps to misjudge their complexity."

Later, we discovered that internal betting among the examiners predicted that it would be impossible for any of our writers to get above a C grade. (We kindly refrained from imparting this information to our candidates until after the test.)

Core subjects such as maths, English, science or languages were ruled out because previous experiments have shown only that someone – pretty much anyone – coming cold to an exam based on a taught curriculum and syllabus that can change every year will struggle and do badly.

So we decided to focus on the more analytical, theoretical subjects, which would have the advantage of testing a more interesting and thorny question and one much debated by universities, employers and head teachers: do A-levels still reward critical thought and well-expressed argument as well as the accumulation of information?

To make our guinea pigs feel comfortable, their invigilator was no one more intimidating than myself, the education correspondent; the exam hall was a meeting room at HQ; and organic apples were laid on to help with dipping blood sugar. A somewhat dusty energy bar was also claimed from the bottom of my handbag by James, and John asked for a double espresso during the second hour of his ordeal (he was sitting the longest paper).

As nervous candidates do, they compared notes on how they had prepared. Most of our writers had done little work beforehand, but Lucy had been given sight of an extract for the business case study on which she was to be examined: the fascinating tale of McAvoy's Ltd, a Scottish fish farm, and its troubled quest for growth. Experts have suggested that this practice of giving students an early look at some of the exam material does theoretically reduce the 'demand' or difficulty of questions, but in previous years it was felt that setting unseen text passages resulted in too many rewards for comprehension and not enough for understanding of the subject. As with many of the technical

conundrums surrounding A-level standards, there are arguments on both sides.

Chris admitted to having looked at some of the specimen papers and the mark scheme on the website, which promptly led to accusations from the others of being a swot.

But the economics editor hadn't been impressed. "I was rather shocked by these as they contained clear errors," Chris said. "One set of answers had highly dubious suggestions such as 'an economic slowdown in Japan would lead to a reduction in the output and employment of Japanese companies based in the UK.'"

The hour had come and I switched into invigilator mode. "Read the question, read the rubric," I reminded them sternly as the papers were turned over.

This was the moment when the experience became 'real' and, judging from the grunts, sighs, head scratching and pained faces, it was challenging. At one point Lucy's pallor and James' despairing look at the sky made me fear they were about to duck out, but they stayed the course.

Afterwards, I asked for their impressions. Chris was disappointed by the extent to which questions asked for simple facts and definitions and by the easy calculations required. "I was surprised and concerned by the limit of historical knowledge that was expected of students (only 10 years of economic history) and the extent to which the papers encouraged parroting of facts rather than eliciting whether students had understood the relevant issues."

The business studies paper prompted the same sort of objections from Lucy, who thought factual questions on regional aid and company finance "boring" and too clearly designed to elicit a particular answer: "I found myself searching my brain for any scraps of knowledge that might do. I find it very hard to assess if these were by some miracle correct, or if they were looking for something else entirely."

Here she hit a nerve. Official analysis carried out for the QCA of the new-look A-levels introduced in 2000, when the traditional two-year courses were split into AS and A2, also identified this problem. The level of detail required by the examiners, and the very explicit guidelines, supporting materials and published marking schemes might lead to a monotonous time for pupils and teachers as they churned out what was expected of them, the reviewers found.

Schools might "concentrate on delivery of the specification, relating it heavily to the anticipated assessment and giving candidates a narrower learning experience".

This warning, together with Lucy's argumentative assertion that if she took the paper again she would know from the markers' comments how to get herself an A, seems to confirm that the approach of a 100% pass rate might be in part due to what is known as 'teaching to the test'.

The QCA disputes that this is a widespread problem, unlike in school tests for 7, 11 and 14 year olds. But head teachers freely admit that their staff have become very savvy about the tricks which will secure top grades for pupils.

In contrast to Chris and Lucy's complaints about boring questions and – once they had received the results and seen the comments – "pernickety" marking, John and James were more impressed by the demands the papers made. John found himself pleasantly surprised by how much his essay questions, on issues such as media regulation and competition and the British film industry, required in terms of thought, by their relevance to current debate and by the experience itself. He was, however, comparing this year's A-level paper to his own Scottish

Highers, which are a slightly lower standard because more subjects are taken.

"I know it sounds a bit sick but I quite enjoyed it," he said, handing in the final script. "I didn't find today's questions very difficult but my fear is that I waffled and that there is still such a thing as the 'right' answer, which I didn't know."

Matthew Lumby of the QCA confirmed that this fear was rational, because essays are marked in a very structured way: "A lot of people think that in an essay question you are just judged on content and style when in fact the markers will be looking for a number of specific things."

James was my biggest worry. He arrived late, he was distracted by a big political story he had to write that day, he finished early and he seemed, bizarrely, to be writing in pens of about three different colours. The questions would have been acceptable for any political correspondent, he decided, and – falling into the trap identified by Sylvia of underrating the sophistication of the paper, as we later discovered when the results came in – he declared that even a 17-year-old could cope merely by reading the newspapers closely. "But this experiment, never to be repeated, has made me think that A-levels aren't a cinch," he added. "That was a lot to do in one hour."

As James and Lucy seemed to feel acutely, the experience revived horrible memories of both school and university and, employers' organisations will be interested to note, was utterly different from working life – irrelevant really.

"An exam is a limited and stressful way of testing people's ability. You can learn to be better at exams but why bother?" said Lucy afterwards, with renewed empathy for the pupils who are yearly told their certificates are all-but-worthless after being put through this "wretched" experience.

"I doubt I've sat down and written so much with a biro since university – that was the really hard bit," said James. (As it turned out, he was right to be concerned about being penalised for handwriting violations.)

According to our exam board experts, having nothing riding on the exam and not taking it very seriously was likely to have had a negative impact on his performance as well: empirical studies have shown that morale, defined as optimism and belief in the exam's link to a successful future, is crucial.

James preferred to blame the others for his lack of concentration: "I kept getting psyched out by Lloyd's seriousness but that's nothing new. I thought Lucy ate her apple a bit noisily."

John, meanwhile, was preparing his own self-justifications as the candidates compared grade predictions.

"I think if there is justice in the world I should get an A star. Lucy said that's what men always do, overestimate their prowess while women are more modest. I claim that's the false modesty of one who knows she's done well. That's what the girls in my school were like."

As far as predictions went, both were right: all three male candidates expected to be awarded an A, but only two achieved the highest grade (see below). Lucy expected "no higher than a C" but came away with a B and is now claiming she could have done better if the marker had read her answers more carefully.

But overall, exam board experts and educationalists have confirmed, our candidates turned in a very creditable performance. John is even talking about taking Russian or Italian A-level next, and all felt they learnt something from the experience – if only never to answer my calls in future.

A couple of hours after the exams, Lucy complained in a one-line e-mail that it would take years to repair the damage the experience had done to her self-esteem and mental health.

It is likely to take at least as long for the government to decide whether it wants to keep the A-levels it still thinks are the most recognisable qualification in the education system or back proposals for a complete overhaul.

In the meantime, the debate will continue to rage, year in, year out, with the two sides taking increasingly entrenched positions based largely on opinion and prejudice. For the truth is that it is extremely difficult to compare today's exams with those from more than two decades ago, when only a limited quota of students could be awarded an A. An independent study of standards over time, carried out by an international panel, was flummoxed when faced with the numerous changes to the system and to the tests of skills and knowledge since the 1980s.

But our experiment seems to suggest that a pupil who has been spoonfed facts and definitions, and reproduces them in exactly the phrasing the examiner expects, will indeed find it easier nowadays to do well on the structured parts of the papers: our candidates were right to fear that without being trained in the curriculum content they would not deliver the right answer in the right way.

However, the sort of skills that both universities and employers say they look for – the ability to think quickly and critically on your feet and make a clear argument – are also clearly still being sought and rewarded. Our most successful *FT* candidates felt they were more generously marked on the essay questions, which, because of their profession, they were able to answer fluently and cogently.

In fact, the markers who awarded the two lower grades complained that it was exactly these elements that were missing. Answers were not "wide-ranging" enough or did not provide enough analysis to support a judgment, they noted.

Rising to the challenge offered by essay questions and using them to show off both skills and knowledge still, it would seem, secures the best marks.

As Chris, the best prepared of our candidates, reflected: "I didn't think my 1988 A-level was perfect, and nor was this. The multiple choice in 1988 was harder than the structured questions in this paper and you had to write more essays. Those aspects were certainly easier now. On the other hand, there was no choice of questions on this paper so students were no longer able to pick their favourite subject to the same degree as we could in the 1980s."

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