Education: Better results and declining standards?

Online Briefing

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Summary

- Since 1999-00, expenditure on education has risen by 5% in real terms each year. It is projected to increase from £45 billion in 2002-03 to £57.8 billion in 2005-06, amounting to 5.6% of GDP, higher than the European average.
- Spending per pupil is also rising rapidly. Since 1999-00, revenue spending per pupil has risen from £3,175 to £4,190 in 2004-05, and by 2007-08 will reach £5,500.
- The number of pupils reaching the Government's achievement benchmarks at Key Stage 2, GCSE and A-level has increased rapidly. But is the attainment real?
- *Key Stage 2* (age 11): In 1995 48% achieved the expected standard (Level 4) in English and 44% in maths. In 2005 79% of pupils achieved Level 4 in English and 75% in maths. The official government target was to reach 85% by 2004. Not only has it failed to reach its own target, other measures of attainment suggest that performance has been exaggerated.
- The Qualifications and Curriculum authority (QCA) compared literacy at Key Stage 2 between 1996 and 1999 and found that reading standards had fallen. The report concludes that 'some of the recent improvement' in reading results was 'illusory'.
- *GCSE*: In 1997/98, only 46.3% achieved 5 or more A*-C's at GCSE while 6.6% had no passes. The latest results for 2004/05 show that 55.7% of pupils achieved 5 or more grades A*-C, while 3.7% did not achieve any passes.
- In August 2001, Jeffrey Robinson, a senior examiner in GCSE maths for the OCR Examination Board, claimed that pupils achieving As and Bs would have received C and D grades ten years earlier. The pass mark for a C grade had fallen from 65% in 1989 to 48% in 2001.
- *A-level*: Grades A-C at A-level were awarded to 46% of students in 1992 and 69.8% in 2005. The proportion of A grades increased from 13% in 1992 to 22% in 2005. Dr Robert Coe has compared A-level results with actual changes in achievement by using the International Test of Developed Abilities (ITDA). In maths, the average ITDA score was 72.3% in 1988, while by 1998 it had dropped to 59.3%. At the same time the average A-level score for this subject increased from 3.78 to 5.69.
- *University degrees*: Thirty years ago, less than one student in three achieved an Upper Second or First. By 1998 this figure had reached 50%, rising to 55% in 2004. The numbers gaining Firsts has also risen from 7% in 1995 to 11% in 2004.
- The *Times Higher Educational Supplement* surveyed 400 academics and found that 71% agreed their 'institution had admitted students who are not capable of benefiting from higher level study'. 48% said they 'felt obliged to pass a student whose performance did not really merit a pass' and 42% said that 'decisions to fail student's work had been overruled at higher levels within the institution', while one in five had turned 'a blind eye' to student plagiarism.
- *Adult literacy*: In 1998 the Department for Education and Skills established a working group on adult literacy under the chairmanship of Sir Claus Moser. It reported in 2002 that roughly 20% of adults, perhaps 7 million people, had severe problems with basic skills, particularly 'functional literacy' and 'functional numeracy'.

Introduction

There have been dramatic improvements over the last decade in the number of students achieving the expected standard in national tests at all levels. Each year's rises have been met with pronouncements by Government ministers on how much the education system is improving.[1] Michael Barber, Head of the Prime Minister's Delivery Unit, has been especially vocal in publicising the apparent gains, stating in 2002 that: 'After five years of urgent and determined progress with some hard evidence of improved outcomes, the evidence of progress is clear'.[2]

However, strong criticisms have been made. First, independent studies suggest that the headline results present a misleading picture of performance. Second, even if the national statistics are to be trusted, we should still be concerned about the numbers not reaching expected standards, in particular pupils who leave education without basic skills. The Government's own statistics show that around a quarter of 11 year-olds still fail to achieve the official standard, roughly half of 16 year-olds don't get five good GCSEs, and more than 7 million adults lack basic literacy and numeracy skills.

Moreover, these shortcomings are found at a time when there has been enormous additional investment in state education. Since 1999-00, expenditure on education has risen by 5% in real terms each year. This expenditure is projected to increase from £45 billion 2002-03 to £57.8 billion in 2005-06, amounting to 5.6% of GDP, which is higher than the European average.[3] Revenue spending per pupil has also increased. In 1999-00, it was £3,175 per pupil, rising to £4,190 in 2004-05. By 2007-08 it will reach £5,500.[4]

But, just how reliable are these national tests at ages 11, 16 and 18 as measures of *real* educational attainment? In what follows we look at independent measures of achievement at Key Stage 2 (age 11), GCSE and A-level. We also look at the evidence on university degrees and adult literacy.

Primary Education

At age 11 all children are expected to sit an exam to test their abilities in literacy, numeracy and science, referred to as Key Stage 2. This follows a similar test for 7 year-olds at Key Stage 1. Official data have been available since 1995 for Key Stage 2 assessments and here we will concentrate on the English and maths (referred to as 'literacy' and 'numeracy') results.

Official figures display a steeply upward trend, suggesting a dramatic rise in standards, and have been used extensively to promote government policies. Indeed on the

publication of the 2004 results, the then Minister of State for School Standards, Stephen Twigg, pronounced: 'Today's results show that primary schools are making huge strides. Parents and pupils can be confident that standards in schools are getting even better'.[5]

At Key Stage 2 children are expected to reach Level 4, which is supposed to represent a reasonable level of literacy or numeracy for that age group. In literacy, results have risen sharply since 1995, when only 48% managed to achieve this level. By 1999 the figure had reached 71% and by 2003, 75%. This trend was paralleled in numeracy. In 1995, 44% achieved Level 4. By 1999 this had increased rapidly to 69%, reaching 73% in 2003. The 2005 assessments show further gains, with 79% of pupils achieving Level 4 in literacy and 75% achieving the same level in numeracy.[6] Girls outperformed boys in literacy, with 84% of girls and 74% of boys reaching Level 4, while the results for numeracy and science were similar for the two sexes. (However, only 57% of pupils in 2005 achieved level 4 in both the reading and writing components of the English test *and* the Maths test).[7]

Despite the Government's failure to meet its own 85% target,[8] with around a quarter of children still failing to attain the expected standard (Level 4), the results indicate another year of improvement. But the question is, has this improvement been 'real'?

As schools increasingly achieve the same levels of success, practitioners are questioning the validity of the league tables. Test validity is called into question on several grounds, namely the possibility that tests have become easier, as well as the acknowledged practices of 'teaching to the test' and more overt forms of cheating. 'League tables are increasingly pointless, because they do not actually do a very good job of providing information to parents and the public about how schools are doing,' commented David Hart, General Secretary of the National Association of Head Teachers.[9]

Whilst New Labour has been in power, a number of independent studies of primary achievement have been carried out. The studies surveyed below indicate a significant discrepancy between the pace of improvement according to Government statistics, and independent studies measuring changes in achievement.

1. The PIPS project

The Curriculum Evaluation and Management (CEM) Centre at the University of Durham runs a number of information systems tracking the changing achievements of pupils in literacy and numeracy. The Performance Indicators in Primary Schools (PIPS) project is one such system. Schools and local education authorities opt to join, and currently 155 schools are involved with more than 7,000 pupils from Year 6 (age 10/11) taking the test

each year. The tests are specifically written for the PIPS project but are linked to the National Curriculum.

The intention is to provide schools with a baseline measure of achievement for each pupil and to monitor progress year by year. The results for 122 schools, involving over 5,000 pupils, have been aggregated to provide a measure of attainment over time. The scores were standardised to produce a mean of 100 in 1997, although the reading test had to be re-standardised to a mean of 100 in 1999 following changes in the test. Between 1999 and 2002 there was no statistically significant overall increase in reading standards, with the mean standardised scores increasing from 100 to only 101. However, in numeracy the mean score increased from 100 in 1997 to 109 in 2002.[10] According to the SATs results, in English the proportion achieving Level 4 rose from 71% in 1999 to 75% in 2002. In maths, 69% achieved Level 4 in 1999 compared with 73% in 2002.

2. The MidYIS project

The Middle Years Information System (MidYIS) is another monitoring project run by the CEM Centre. It uses a test of developed abilities, which includes a mathematics subtest, and is given to Year 7 (age 11/12). In 2002 the project published its standardised scores for the maths test for over 31,000 pupils each year from 1999. Again the mean was 100, and the score rose from 100 in 1999 to 104 in 2002.[11]

3. Davies and Brember (University of Manchester)

Julie Davies and Ivy Brember, from the School of Education at the University of Manchester, have tested all Year 6 (age 10/11) pupils in the same six randomly chosen schools from one Local Education Authority (LEA), using the same test for reading and numeracy year on year, since 1989, with the latest results for 1998.[12] Their figures show a decline in achievements up to 1994, from which point there is a slight but steady improvement. The scores were standardised by Tymms and given a mean of 100 in 1989. From 1995 to 1998 the reading score rose from 96.8 to 99.6 and the numeracy score from 99.4 to 102.5.[13] SATs scores over the same period increased sharply. In English 48% achieved Level 4 in 1995, rising to 64% in 1998. In maths, the proportions were 44% in 1995 and 58% in 1998.

4. QCA commissioned report

The Qualifications and Curriculum authority (QCA) commissioned a report into the claim that standards had been lowered.[14] It compared tests between 1996 and 2000 and claimed that overall, their evidence 'gives the lie to any theory of conspiracy to undermine' standards. However, when the report compared literacy at Key Stage 2 between 1996 and 1999 it found reading standards had fallen, as cut-scores (the scores identifying grade boundaries) were made more lenient. In 1996, the cut-scores for Levels 4 and 5 were 57 and 79 respectively, while in 1999, they were 48 and 70, each nine marks lower. Although the 1999 reading test was deemed to be 'harder', meaning that average reading scores were 4 marks lower, the 1999 cut-scores (nine marks lower) 'overcompensated for the difference' by 5 marks.[15] This led the report to conclude that 'some of the recent improvement in Reading results...are illusory'.[16] Contrasting results were found for numeracy, where they found that there 'is no suggestion here that standards...might vary'.[17]

This finding is consistent with the work of Mary Hilton, of Homerton College, Cambridge, who looked in detail at the Key Stage 2 reading tests between 1998 and 2000 and concluded that 'the reading tests were progressively easier for the children to answer. This was because the number of questions requiring higher-order reading skills...decreased each year, while the number of questions requiring the lower-order skills...increased'.[18]

The experience of the National Foundation for Educational Research (NFER) suggests a similar conclusion. The NFER is the body that standardises many of the reading and maths tests scores and which develops Key Stage 2 tests. The tests are standardised so that the average child scores 100. If actual standards are rising, then the tests have to be re-standardised, so that all the scores do not shift upwards. However, the NFER assistant director, Chris Whetton, said in 2002 that 'If there was a lot of evidence that there was a jump or drop in performance then we would have to re-standardise. But this has not happened in the past four years'.[19] Although this does not provide quantifiable evidence, it does suggest that academic standards of children in primary schools have not changed.[20]

However, the QCA also collected results from six LEAs in England that had independent test data for the same period. Effectively, these LEAs had produced their own reference tests. Four had reading test data and concluded that 'children with equivalent reading scale scores have obtained better and better statutory test levels...with an uplift of about a tenth of a level per year' (1996-2000).[21]

Qualitative data were also collected by the QCA from teachers and pupils. The judgements of a 'small' group of experienced teachers were employed to assess the quality of scripts of pupils from Northern Ireland who had gained Level 4 in the 1996 and 1999 papers. Although the study cautions against placing too much emphasis on the exercise, they concluded that 'the majority of teachers involved considered that the work of children who achieved Level 4 in 1999 was of lower quality than that of children achieving Level 4 in 1996'.[22] The interviews with children indicated that they 'clearly perceived the 1999 paper to be more accessible and user-friendly than the 1996 version' and 'identified features that had been introduced to help them negotiate the tasks they were set'.[23]

Assessing the evidence

The independent evidence casts doubt on the validity of the dramatic rises seen in Key Stage 2 results, at least in literacy. As Tymms writes, they are 'so out of step with other longitudinal data as to raise questions about their being true representations of changes in standards'.[24] In numeracy, however, the increases in the Key Stage 2 test outcomes were much closer to the results of the independent studies.

Why is it that children are gaining better and better results for Key Stage 2 literacy when these achievements seem not to represent real changes in actual attainment? The Government's claims to 'significant improvement' in test attainment standards at secondary level and successfully achieved targets at primary level have been recently undermined by a report from OfSTED.[25] According to the report, 44% of boys and 29% of girls are currently leaving primary school unable to write properly, almost seven years after the Government introduced the National Literacy Strategy. OfSTED attributed the results to poor teaching, declaring one in three literacy lessons to be 'no better than satisfactory'.[26] A third of numeracy lessons were also deemed to be weak, despite the introduction of the National Numeracy Strategy in 1999.

The OfSTED report highlights the danger of focusing too much on the overall results for English. Doing so masks the 20-percentage point gap between reading and writing. Whilst the expected standard in reading was met by 83% of pupils last year, only 63% met the standard in writing.[27] Furthermore, only 56% of boys passed the writing test, compared with 71% of girls.[28] Thus one in three pupils are currently entering secondary school without the writing skills necessary to cope with the National Curriculum. Falling behind at age 11 has repercussions later on. Only 14% of those children who fail to reach

expected standards at 11 go on to pass five good GCSEs.[29] OfSTED concludes that the failures are the result of a deficiency in teacher subject knowledge.

However, an academic study of validated results at primary level undermines the very worth of the performance measures themselves. In March 2004 Professor Peter Tymms of the CEM Centre at the University of Durham questioned the credibility of the Government's claims that a rise in test attainment was indicative of a significant rise in standards.[30] He submitted his case to the Statistics Commission, an independent body set up by the Government to ensure the credibility of Government statistics, which then subjected his case to critical appraisal.[31] The statistics watchdog discredited as a 'substantial overstatement' the national test scores of 11 year-olds in the late 1990s as evidence of a rapid rise in standards in primary schools.[32] The watchdog argued that elements of the rise were attributable to external factors, meaning that standards had not in fact improved as much as test scores superficially suggested. An example of such external factors suggested by the Statistics Commission was the temptation for teachers to 'teach to the test' leading to an initial rise in test results 'even if it does nothing to raise standards'.[33]

'Ministers and others who may want to use the test scores in a policy context need to be made fully aware of any caveats about their interpretation,' the Commission warned. It continued:

> There are a number of qualifications that need to be made. Yet Government departments have usually failed to mention any caveats about other possible reasons for rising test scores in their public comments. We feel that public presentation of the key stage scores in statistical releases should include a clear statement about the uses to which the data may be put, and the limitations on it in respect of those uses. In that statement, it should be recognised that part of the rapid rise in test scores from 1995 to 2000 can be explained by factors other than a rise in standards.[34]

Professor Tymms argued for an independent body to monitor standards over time and claimed that the national tests could not perform this task because the test scores move for reasons that have nothing to with the standards that the children taking them have reached.[35]

A prime factor liable to be influencing test performance is that schools are becoming better prepared for the end of SATs exams by 'teaching to the test'. As teachers are becoming increasingly concerned about test results they become more inclined to teach

both exam techniques and crucially, carefully tailored material - preparation of which may lead to pupils having a greater capacity to pass tests and little else. It has the effect of narrowing the subjects taught and what is taught within each subject. During the SATs years, Years 2 and 6, teachers focus heavily on those subjects that are nationally tested so that literacy, numeracy and science in Year 6, become central to the curriculum at the expense of other non-core subjects. Moreover, as teachers are briefed by Local Education Authorities (LEAs) and the DfES on the specific topics to be tested in the SATs exams, learning within each subject becomes severely pared-down. To give an example, in the Key Stage 1 literacy SATs (taken by 7 year-olds) pupils are tested on 'instruction' writing: they must be able to write out instructions for an activity such as how to wash one's hands. Marks are allocated according to a basic framework that can be learnt mechanically during the run up to the tests. Thus, whilst children may not be able to construct a basic sentence spontaneously, they will be able to trot out instructions that score marks according to the known marking scheme. Pupils will have been primed literally word-for-word in what the markers are looking for: in the case of instructions, this would include the use of 'first', 'then', 'next' and 'finally'. The fundamental problem with this teaching method is that it leaves huge knowledge and skills gaps, focusing disproportionately on very specific tasks. Such teaching to the test replaces the primary goal of education with what should be a secondary goal. In a well-run school, a wide range of knowledge would be taught and then a random sample of this knowledge tested. Such testing is a tool rather than an endpoint.

Such 'teaching to the test' has been used to explain apparently miraculous rises in similar 'high stakes' exams in the US state of Texas [36] where the results were found to be illusory by the independent monitoring system known as the National Assessment of Educational Performance (NAEP).

Professor Tymms has also pointed to the deficiencies in QCA procedures for ensuring that standards are maintained over the years. A detailed analysis of these procedures, and their shortcomings, is given by Tymms and Fitz-Gibbon.[37] A number of sources of information are employed to set the cut-scores (grade boundaries) for each year's test. First, the same anchor test is used each year against which results from the new test are checked. Second, a sample of pupils who are about to take, or have just taken, the real test from one year are given next year's test (pre-testing) so equivalent scores can be estimated. Third, expert judgements are made of the scripts. Fourth, there is expert scrutiny of the questions.

Four possible problems with this process have been identified by Tymms.[38] The first is that attempts have only been made to equate standards from one year to the next. The cut score must equate to a mark and this could never be more accurate than to within one or two marks. Over time, there will be an inevitable drift in standards, and over several years differences can accumulate. The anchor test is meant to safeguard against such drift, but it is limited in this respect as it is only used to check standards from one year to the next and not to check standards across several years.

Second, the pre-test, on which marks are based, is 'adrenaline free' as the pupils know that the test is not the real thing and doesn't count, and it is also taken earlier than the live test, meaning pupils are younger and less prepared. Both of which may mean that pupils will gain lower marks on the pre-test than they would if the test were 'live'. Consequently, when the equivalents are devised, standards will be lowered. The lowering of cut-scores in reading, highlighted above by the QCA report, is evidence that the above two influences may have been important.

Third, markers know that schools are under increasing pressure to ensure that pupils gain Level 4 in the tests, and this may lead markers to act more leniently towards borderline cases as the stakes are raised.

Fourth, the policy of returning scripts to schools may encourage challenges and a response among markers to give pupils the benefit of the doubt.

To sum up: the statutory test data show dramatic rises in the standards of literacy and numeracy achieved at Key Stage 2, but, especially in literacy, on the basis of other independent evaluations of standards, the validity of such rises is put into doubt. The system for maintaining standards used by the QCA has a number of problems that may explain the discrepancy between the statutory and independent data and account for the upward shift in results at Key Stage 2 literacy when pupil attainment remains relatively steady.

Secondary and Further Education

National examinations are also held at 16 (GCSEs) and 18 (A-levels) and results are also said to have improved over the last ten years or more. Again, we can apply independent data to assess whether the increases in examination results really represent an increase in standards. We can also look at international data to see how Britain compares with other countries.

GCSEs

GCSE results have shown a remarkable rise in recent years. The introduction of an A* grade in 1994 was symptomatic and the number of pupils gaining the expected 5 or more A*-C grades has increased rapidly. In 1997/98 only 46.3% achieved 5 or more A*-C's while 6.6% had no passes. By 2000/01 the equivalent figures were 50% and 5.5%. The latest results for 2004/05 show that 55.7% of pupils achieved 5 or more grades A*-C, while 3.7% did not achieve any passes.[39] The figures show an improvement but even so, nearly half of all 16 year-olds fail to get five good GCSEs. Moreover, currently the 5 or more subjects used as the benchmark need not include English and maths. Less than half of pupils (44%) obtained five good GCSEs in 2004/05 when English and maths were included.[40]

What are we to make of the rise in performance in GCSEs? Do these increases in statutory test results at GCSE represent real increases in attainment? The CEM Centre's Year 11 Information System (YELLIS), is a monitoring programme providing performance indicators for pupils aged 14-16 (Years 10 and 11). The Basic YELLIS test is a measure of developed abilities providing a baseline of performance, collected from over 1300 secondary schools and 200,000 pupils. The test includes compulsory verbal and maths sections, an optional non-verbal section and a brief questionnaire.

The recorded change in ability since 2001 has been minimal. Results for the test are graded from A to D. For year 10 students (age 14/15), those achieving an A or B has risen from 58% in 2001 to 60% in 2004, while those gaining a B or C rose from 47% to 49% and a C or D from 35% to 37%. For year 11 students (age 15/16), the increases are similarly small. Those gaining an A or B has risen from 70% in 2001 to 72% in 2004, while students achieving a B or C has increased from 57% to 60% and those awarded a C or D from 44% to 46%.[41] Research by Dr Robert Coe of the CEM Centre, has estimated the average GCSE achievement of students with the same score on the YELLIS test. The overall trend is for the GCSE grades achieved by students of the same (YELLIS) ability to increase, inviting the conclusion that exam standards have been lowered.[42]

Just this claim was made in August 2001 by Jeffrey Robinson, a senior examiner in GCSE maths for the OCR Examination Board. He said that pupils achieving As and Bs would have received C and D grades ten years earlier. The pass mark for a C grade had fallen from 65% in 1989 to 48% in 2001. In the higher level paper, taken by those with a chance of gaining an A grade, the cut-score for a C had been lowered from 45% in 1988 to 20% in 2001, he said.[43]

Mike Tomlinson, the head of a government inquiry into exam reform, cites a number of problems. He bemoans the fact that pupils can finish school without an essential knowledge of what he calls, 'the core' of mathematics and English. In giving evidence to the Education Select Committee, he remarked that 'as far as GCSE is concerned...it is impossible to give you that assurance that they have that core well and truly mastered' and that it was 'difficult to defend' the existing system where marks are not deducted for poor grammar and spelling. He said he would like to see the guidelines to markers changed to give them the remit to penalise pupils in this regard. Furthermore, he questioned the policy of allowing pupils to obtain 'five good A*-C grades at GCSE (the measure of success used by the Government) without studying maths or English' as this means they can leave education or go on to further education, without having mastered the basics in literacy and numeracy. Mr Tomlinson also said it was possible to get '100 per cent in two questions, 0 per cent in another and be regarded as having passed' which also meant that there was no guarantee in the system that the pupil had understood all the areas in the syllabus.[44]

Concerns have also been raised about GCSE coursework, which can count for up to 60% of a pupil's GCSE score. The *Times Educational Supplement* (TES) has reported how schools are able to manipulate the system to gain better marks. A supply teacher told the TES how students at a private school in Lancashire were 'allowed up to six 'drafts' of English coursework before submitting a final version for marking'. Several contributors to the TES website have reported the increasing use of what are called 'writing frames', which are suggested outlines for an essay. They 'allowed some schools to provide virtual model answers'. A former head of English at a secondary school in the north of England said it was 'common to provide a structured plan, paragraph by paragraph, for coursework assignments'. Moreover, the TES reported that typing in 'GCSE coursework' into a search engine 'reveals more than 10 UK-based essay databases, all offering access to complete coursework essays'.[45]

Extra weight attached to GNVQs

Another doubt has been cast over the merit of those schools singled out in Government exam league tables as the most improved in the country. A recent study by David Brown, a retired head teacher, indicates that pupils can achieve the benchmark of five A*-C grade GCSE passes without being tested in either literacy or numeracy.[46] The BBC reports that one in six schools that had better overall GCSE results in 2004 compared with 2001 had actually seen attainment fall in English and maths.[47]

David Brown also points out that it is theoretically possible to 'top a future GCSE five A*-C grade league table without pupils gaining a GCSE pass at any grade in any subject'. He argues that schools need simply to enter their pupils for the intermediate GNVQs in information technology and science in order to be granted eight A*-C grade passes. Brown's analysis of the most-improved schools' results showed that all but one of the schools had entered their pupils for GNVQs. In one of these 10 schools Brown noted that only 25% had gained a grade C or above in GCSE English and only 18% in maths, whilst 80% had achieved C or above at GNVQ level. It was not only this discrepancy in attainment which Brown found alarming: the way the results are ranked in national league tables means that each GNVQ is equivalent to four A*-C GCSEs, despite the fact that the number of hours spent per week on each qualification type is the same. Thus, Brown calculated that studying IT GNVQ for example, was thirteen times as effective in boosting a school's league table position, as studying maths.[48]

International comparisons

Where does Britain stand internationally? The Trends in International Mathematics and Science Study (TIMSS) provides comparative data on achievements in mathematics and science. Findings for Year 9 pupils (age 13/14) were produced in 1999 and showed England to be placed 20th in maths, behind less developed nations like Slovenia, the Czech Republic and Bulgaria, and 9th in science. The latest study results for 2003, however, exclude England from the exercise because it was categorised as a country which 'failed to meet requirements' because it had an 'unacceptable sampling response rate even when replacement schools are included'.[49] Nonetheless, the incomplete results for England are given unranked at the bottom of the main table. In maths we achieve 18th place while in science we come 7th.[50] Given that the non-participating schools are more likely to be under-performing schools, these results will almost certainly be upwardly biased.

The Programme for International Student Assessment (PISA) is another comparative study of student performance across more than 40 countries. It attempts to judge how well 15 year-olds are equipped for modern society by measuring what it calls, 'three forms of literacy': reading, mathematical and scientific. It does this by administering tests and questionnaires to between 4,500 and 10,000 students in each participating country.

The results from the 2000 survey appear to be quite encouraging for UK pupils: they come eighth in 'mathematical literacy', seventh in 'reading literacy' and fourth in 'scientific literacy'. However, one prominent academic, Professor Sig Prais of the National Institute

for Economic and Social Research, questions the accuracy of these findings as 'serious doubts attach both to the designed objectives of the PISA survey and to the way it was carried out'.[51]

First, the study questions were not related to the school curriculum. Rather they were to 'real life' situations – such as the growth of lichen or the breathing cycles of seals, leading inevitably to significant misunderstandings across the socially disparate countries. Second, the chosen age of 15+ is problematic because in some countries – such as Germany or Switzerland – 'some pupils have left school and are in employment or unemployment, and others are in part-time vocational colleges and difficult to reach in a sample survey'. Third, the selection of a specific year of birth rather than school grade doesn't make allowance for the staggering of school grades in continental schools, to avoid discriminating against younger, slower maturing-pupils. This meant the survey included pupils who had entered school a year late or repeated a class.

Fourth, the UK response rate was especially low. The minimum response rate is set at 85% at school level, but in the UK, from the initial sample list of 180 schools, it was only 61% (before a second sample of 'replacement schools' was used). 'The missing schools on the whole were probably low-attaining schools' so that 'there must be grave suspicions of upward bias in the average score of responding schools'.[52] Equally, the numbers of pupils participating in these schools, at 81%, was the lowest rate for any of the countries in the survey (compared with 92% in France, Germany, Hungary and Switzerland) and 'there must be more than a suspicion of lower representation of weaker English pupils'.[53] From the original sample then, under-half (48%) responded (81% of 61%). To compare these results with countries such as France, Germany and Switzerland, where something like 90% of the original representative sample participated, runs the danger of being seriously misleading.

Moreover, the attitude of the British Government's statisticians compares badly with the approach taken in Germany, where the cities of Berlin and Hamburg also achieved a low response rate of 70%. German statisticians were so anxious not to overstate the achievement of German schools that they left the two cities out. The attitude of statisticians in the DfES was quite the opposite. They went out of their way to give the impression that the UK response rate was comparable, thus significantly exaggerating the real attainments of British schools.

The 2003 PISA was released in December 2004 but Britain was the only developed nation not to appear. Again, there were difficulties with the response rate so that Britain

'fell significantly short' of PISA technical standards.[54] As noted above, PISA requires that initial response rates should be 85% at the school level and 80% at the student level and Britain only achieved response rates of 64.3% and 77.9% respectively. In the previous study the difference was made up by a 'replacement' group of schools, but in the new study, even these schools failed to register enough responses (77.4%). Consequently, according to the OECD, Britain's scores 'cannot reliably be compared with those of other countries' or with the previous performance results from PISA 2000.[55]

Nonetheless, the UK's mean performance figures for mathematics, reading and science are given in an Annex (A3). In maths the mean score was given as 508, which would place the UK 18th. In reading, the score given was 507 or joint 11th with Belgium, while in science the UK achieved a score of 518, which would place the UK 12th. Even if we were to accept the validity of the latest PISA data, it looks as though we would not have performed very well, and would almost certainly have done worse than in 2000, confirming Professor Prais's doubts.

In response to the behaviour 'crisis', the Government has employed 100 specialist teams to tackle the problem. The DfES also believes that moves towards a more individualised curriculum will reduce both disruptive behaviour and truancy in schools.

A-Levels

As with Key Stage 2 and GCSE exams, A-level results have shown a dramatic improvement in recent years. The percentage gaining grades A-C has risen sharply from 46.4% in 1992 to 69.8% in 2005 while those passing (achieving grades A-E) has climbed from 79% in 1992 to 96.8% in 2005. The proportion of A grades has almost doubled from 12.8% in 1992 to 22.6% in 2005, while the proportion gaining B grades has increased from 16.3% to 23.7% in the same period.[56]

Dr Robert Coe from the CEM Centre has compared A-level results with actual changes in achievement by using the International Test of Developed Abilities (ITDA) which includes maths, verbal and non-verbal elements.[57] In all six subjects studied, attainment fell steadily. In mathematics, the average ITDA score was 72.3% in 1988, while by 1998 it had dropped to 59.3%. At the same time the average A-level score for this subject increased from 3.78 to 5.69. In English Literature, the ITDA score dropped from 57% to 51.5% between 1988 and 1998 while the average A-level grade increased from 4.59 to 5.96. In Biology, the ITDA fell from 63.7 to 53.4 in the same period, and the average A-level grade increased from 4.33 to 5.24. Similar trends were found in history, French and

geography. (A-level grades are coded as follows: A=10, B=8, C=6, D=4, E=2, N=0 and U= -2.)

The evidence suggests that actual attainments have fallen while A-level grades have risen. Dr Coe estimates the extent of A-level grade inflation between 1988 and 1998 for students with the same ITDA score of 60%. He concludes that: 'A fair summary would be to say that A-level candidates across a range of subjects achieved over a grade higher in 1998 than candidates of the same ability had done in 1988'.[58]

Similar research has been carried out by the Engineering Council into the achievements of students taking A-level mathematics.[59] It used a diagnostic test designed by Coventry University, consisting of 50 multiple-choice questions taken by 600 students per year. In 1991 those with a grade B at A-level scored 40.5/50. In 1998 they scored 36.8/50. At grade C the gap was from 39.9 in 1991 to 32.1 in 1998. As the report comments, the score of 32.1 in 1998 was 2.3 marks lower than the N grade in the same year. It concluded that there is 'clear evidence' of a 'decline over time in the competency of students with the same A-level grade'.[60]

Professor Tymms has demonstrated that some A-level subjects are easier than others and that they should therefore, not be given equal weight.[61] By using what he calls the '50% Framework', which rests on the assumption that previous achievement predicts about 50% of subsequent variation in results, comparisons are made between the grades awarded to pupils in different A-level subjects and their GCSE results. He found that pupils with a grade B at GCSE in history, economics, geography, English, sociology and business studies went on to score, on average, a grade C in the same subjects at A-level. In contrast, those with a B grade at GCSE in maths, computing, German, French, chemistry, physics and biology were likely to gain a grade D at A-level. The concern is that 'more and more people are drifting away from the severely graded subjects into the others'.[62]

To sum up: on the basis of the independent evidence there is reason to be sceptical that the increases in A-level examination results reflect an equivalent rise in real standards. Rather, the data suggest that standards across-the-board at may have actually fallen while results have surged, and that many increasingly popular A-level courses are less demanding than other more traditional subjects.

Higher Education

Thirty years ago, less than one student in three achieved an Upper Second or First.[63] By 1998 this figure had reached 50%, rising to 55% in 2004.[64] The numbers gaining Firsts has also risen from 7% in 1995, to 8% in 1998, and again to 11% in 2004.[65]

In 1960, Oxford awarded 8.5% of students with Firsts and 33% with Thirds. In 2002 the number of Firsts awarded was 23% and Thirds, 8.5%.[66] The Russell Group – composed of 19 leading universities – gave firsts to 15.5% of students in 2003, compared with 11.8% in 1998. From 1998 to 2003, the proportion of First and Upper Second Class degrees awarded by the Russell Group rose from 61.6% to 66.6%, according to the Higher Education Statistics Agency (HESA).[67]

The overall picture is that more and more students are gaining better degrees, especially Firsts. However, research carried out by London Metropolitan University suggests that the standard required to achieve a first class honours degree varies considerably across universities.

The study by Curran and Volpe [68] looks at 58 British universities and reveals that there is a 'high degree of heterogeneity concerning the degree classification regulations adopted by British Universities', so that students with equal or similar marks profiles are awarded different degree classes.[69] Specifically, there is a large disparity between institutions, in the marks required to achieve a First Class degree, ranging from 68.7% at the University of East Anglia, to just 50.8% at Sunderland University. Moreover, on average, it is the newer universities that require lower marks for a First (59.8% average compared with 63.2% for 'Old' universities): 'Generally, it would appear easier to achieve a First Class degree from a 'new' university'.[70]

There is growing concern then, that First Class degrees are being awarded too freely to students and that the degree classification system has become outmoded, unable to identify above-average candidates. The Scoping Group, chaired by Professor Burgess, Vice-Chancellor of Leicester University, has reported on this issue.[71] It concluded that the current grading system has 'outlived its usefulness and is no longer fit for purpose' as it fails to give enough information about candidates. Alternative systems included the use of grade point average (GPA) scores, as deployed in the USA, and the use of cumulative point scores, in order to provide a more detailed 'progress file' which employers could use to judge candidates more accurately.

Further evidence from surveys of academics suggests that the standards of those attending university is falling, while at the same time, the pressure on academics to pass

students is increasing. The *Times Higher Educational Supplement* has revealed the concerns of many academics with the quality of students going to university. A survey of almost 400 academics found that 71% agreed their 'institution had admitted students who are not capable of benefiting from higher level study'. Almost half (48%) claimed that they 'felt obliged to pass a student whose performance did not really merit a pass'. 42% said that 'decisions to fail student's work had been overruled at higher levels within the institution', while one in five had turned 'a blind eye' to student plagiarism.[72]

The decline in the preparedness of students entering university is further demonstrated in a report by the Engineering Council.[73] At least 60 departments of mathematics, physics and engineering give diagnostic tests to new undergraduates. They reveal 'strong evidence' of a steady decline over the decade up to 1999 in basic maths skills and the level of mathematical preparation. In addition to the Coventry University study already mentioned, the Engineering Council also cites a study by Professor J. Mathew of the University of York. Between 1979 and 1999 the physics department gave students a maths test with 50 multiple-choice questions, each question having four-answer options. Performance was constant up to 1990, then there was a sharp fall, followed by a steady decline over the last decade to 1999 (the last year reported).

To sum up: there is growing evidence that students are being awarded top class degrees without reaching the standards expected; that many academics are feeling pressurised into awarding such good marks and passing undeserving students, and that students are starting university ill-prepared for degree level study.

Adult Education

Millions of adults in the UK have difficulties with simple literacy and numeracy. In 1998 the Department for Education and Skills (DfES) established a working group on adult literacy under the chairmanship of Sir Claus Moser, Chairman of the Basic Skills Agency. It reported in 2002 and in his Foreword, Sir Claus states that, 'people are staggered when one confronts them with the basic facts about literacy and numeracy, and rightly so'.[74] The report claims that roughly 20% of adults, perhaps 7 million people, have severe problems with basic skills, particularly 'functional literacy' and 'functional numeracy'. That is, 'the ability to read, write and speak in English, and to use mathematics at a level necessary to function at work and in society more generally'. To illustrate the meaning of the term 'functional literacy' the working group said that one in five adults, if given the alphabetical index to the Yellow Pages, could not locate the page reference for plumbers.

It cites a report by the Centre for Longitudinal Studies (CLS) at the Institute of Education. The Centre has carried out a series of studies of adults' basic skills for the Basic Skills Agency, drawing on the National Child Development Study (NCDS) which comprises a sample of over 17,000 people born in a single week in 1958. The most recent survey, *It Doesn't Get Any Better*, was carried out on a 10% sample of NCDS cohort members when they were aged 37. It included a basic skills assessment, which comprised a set of functional literacy and numeracy tasks designed by the National Foundation for Educational Research (NFER). The tasks were grouped at different levels corresponding to the Basic Skills Agency (BSA) Basic Skills Standards. Each question was coded as correctly answered, incorrectly answered or not attempted, and these scores were grouped into four ability categories: 'very low', 'low', 'average' and 'good'.

Around 6% of the adult working population is judged to have 'very low' literacy skills, with a further 13% having 'low' literacy skills. Those with very low skills will have enormous difficulty with any simple reading, especially any texts, but may be able, with the aid of illustrations, to read signs or advertisements. Those with low literacy skills are likely to be able to read a short article from a tabloid newspaper, but may read slowly and with little understanding. According to the report, this means that around 20% of adults are less literate than a competent 11 year-old, and 6% are less literate than competent 7 year-olds. Problems with numeracy were even more prevalent. The CLS judged that 25% had abilities lower than those expected of 11 year-olds, while 23% had abilities below those expected of 7 year-olds.

The Moser group's findings have been re-affirmed by the more recent 2003 'Skills for life' survey, commissioned by the DfES. Again, looking into levels of adult skills in literacy and numeracy, it surveyed 8,730 randomly chosen adults aged 16-65. It showed that 5.2 million or 16% of adults had literacy skills below Level 1, or the standard expected of 11 year-olds. In terms of numeracy this figure rose to a staggering 15 million, or 47% of adults.[75]

Where does the UK stand in relation to other countries? The International Adult Literacy Survey (IALS) originally published by the OECD in 1995, with further rounds in 1997 and 2000, has attempted to compare literacy skills in 20 different countries for 16-65 year-olds. Literacy is defined in the survey as the 'ability to understand and employ printed information in daily activities, at home, at work and in the community'.[76] It is separated into three domains of literacy skill: prose literacy (ability to understand and use texts like editorials, news stories and brochures), document literacy (ability to locate and

use information in various formats such as job applications, maps and charts) and quantitative literacy (knowledge and skill required to apply arithmetic operations to numbers in printed material). Each country is then measured according to these variables on a scale ranging from 0 to 500. This range is then divided into five broad literacy levels. Level 3 is considered to be the minimum desirable threshold to cope with the demands of everyday life.

Over 50% of the UK population were deemed not to meet this level for each literacy type, with more than 20% of the population achieving only the most basic score of level 1, indicating 'very low literary skills, where the individual may, for example, have difficulty identifying the correct amount of medicine to give to a child from the information printed on the package'.[77] Comparatively, the UK was deemed to be below average for each literacy type. It came 13th for prose literacy, 14th for document literacy and 15th for quantitative literacy.[78]

These levels of adult illiteracy and innumeracy are placing a serious burden on business. In August 2004, a CBI survey of over 500 firms found that 37% were not satisfied with the basic literacy and numeracy of school leavers, up from 34% in the 2003 survey. During the previous 12 months, 33% of firms had to give school leavers basic training in literacy and numeracy. Overall, employers spend over £23 billion each year on training with a significant amount being spent on this basic training. Digby Jones, CBI Director-General, has commented: 'Too many school leavers are failing to make the business grade. A fundamental working knowledge of English and Maths provides a vital foundation for every day-to-day business task. But the education system is letting down many young people and leaving them unprepared for the world of work'.[79]

Summary of the evidence

'Education is the number one priority for this government' and it has certainly provided massive inflows of funds into the education system over the last few years.[80] Since 1999-00 spending has increased by 5% in real terms year on year. By 2005-06 it is forecast to reach 5.6% of GDP, ahead of the European average. However, as we have seen, the Government's claim that such increases in funding have 'resulted in a measurable improvement in standards' is questionable.[81]

The number of 11 year-olds passing their Key Stage 2 tests in literacy at the expected Level 4 has rocketed from 48% in 1995 to 79% in 2005 (with a similar upsurge in numeracy). Such figures have been used by the Government to claim that 'we've seen

some really very remarkable and sustained progress in attainment in literacy and numeracy'.[82]

At 16, those achieving 5 or more A*-C grades has risen from 46.3% in 1997/8 to 55.7% in 2004/5; while at 18, the proportion gaining grades A-C at A-level has risen from 46.4% in 1992 to 69.8% in 2005. Such results have been cited by Schools Minister Jacqui Smith as 'further evidence of rising standards in our education system'.[83]

A similar story can be told for university students where 55% achieve either a First or Upper Second class degree today, compared with less than one in three thirty years ago.

Yet, despite these increases in national test data, there is ample reason to be sceptical that real attainment has increased to the extent suggested by the official figures. Idependent studies indicate that, for example, standards at Key Stage 2 have risen but nowhere near the extent suggested by the increase in the number of pupils achieving Level 4. At GCSE and A-level strong evidence of falling real standards was found.

Even if we were to accept the validity of the rises seen in the national data, there is still considerable room for concern, as a large number of people are failing to achieve the expected levels. As a result, a vast proportion of those in the education system are either underachieving or leaving without basic skills. Nearly a quarter of 11 year-olds fail to meet the expected grade for their basic tests, while nearly half of all 16 year-olds leave school without 5 or more GCSEs.

Analysis

How can these failures be explained? An important contributor has been the internal contradictions in the Government's strategy since 1997. On the surface the Government is committed to higher standards of attainment, but behind the scenes it is divided between rival factions with incompatible aims. There are three rival approaches: some want social class equalisation; others want schools to prepare children for work in a global knowledge-based economy; and a third group want parental choice and diversity of school type. Under Charles Clarke only two of these approaches were influential. The strongest pressure was the demand for social class equalisation, reflected in the policy of wanting more young people from working class backgrounds to go to university, a demand that has led to the admission of students not capable of benefiting from a university education. This demand was not consistent with his other ostensible aim that education should be a preparation for success in a global economy, which implies a commitment to genuinely high standards of attainment.

Under David Blunkett, greater weight had been given to this objective, although equalisation of access played its part. The third pressure, for parental choice among diverse schools, in the (unspoken) hope that competition would raise standards as schools compare themselves with one another, is among Mr Blair's priorities and played a role in Mr Blunkett's time, but was almost absent from Charles Clarke's agenda. Ruth Kelly has breathed new life into the Blairite ambition to encourage different types of school, including faith-based institutions and city academies. Some of the teachers' unions have seen where it could lead and don't like the look of it.

David Blunkett's resignation as Home Secretary in December 2004 led to a ministerial reshuffle. Charles Clarke replaced Blunkett, and Ruth Kelly took over as Secretary of State for Education, amid rumours that Blair was keen to move Clarke, because his approach was overly cautious.[84] Clarke had outlined his goals for education in the Five Year Strategy for Learners. In this document Clarke proposed several projects that aimed to sow the seeds of a more egalitarian society, and improve the international competitiveness of the nation's workforce. This would include building upon work already done in the provision of comprehensive education, combating the correlation between social class and under-achievement, and raising the working population's levels of basic literacy and numeracy.[85]

Kelly's agenda was revealed in her first public address at the North of England Conference in Manchester when she was responding to Mike Tomlinson's proposal to implement a diploma to replace GCSEs and A-levels.[86] Declaring opportunity to be her number one priority, Kelly laid out her plans to empower the parent and the individual. Kelly spoke extensively of her plans to push parents' rights to choose good schools, and children's rights to a personalised curriculum – a system 'universally responsive to its users'.

Charles Clarke established Tomlinson's working group in 2003 with the aim of producing a greater coherence of learning programmes, reviewing examining arrangements, and creating a 'unified framework of qualifications'.[87] The educational community appeared to be embracing Tomlinson's proposals, and thus Kelly's decision to reject a unified single diploma, received a great deal of criticism. Whilst Kelly admitted that the current education system was failing an enormous number of 14-19 year olds, she was determined to retain and strengthen academic qualifications (GCSEs and A-levels).

To summarise her recommendations: there are to be 14 specialised diplomas, to be drawn up by employers, by 2015; new GCSEs in English and maths, will be introduced by

2008 and 2009 respectively; a new league table system will be drawn up showing the percentage of pupils with five good passes; from 2006, universities will have access to AS level grades in order to identify the most able students; and finally, there will be new measures after 2008 to 'stretch' more able sixth-formers. Therefore rather than creating a 'unified framework of qualifications' Kelly is opting for a system of two clearly defined streams of progression: A-levels for the academic, and vocational diplomas for the non-academic.

In mid-February 2005 Tony Blair unveiled six promises on Labour's 'pledge card' for the forthcoming general election. Education was the subject of the third pledge, "Your child achieving more". Shortly after, Blair launched a 'mini-manifesto' setting out his party's plans for a parent-driven school system designed to focus on individual children's needs: 'More achievement, more choice, more parental involvement'. The manifesto also proposed a reduction in class size as part of the drive towards personalised learning. How smaller class sizes would be achieved is not clear. Another omission is a key target for raising achievement in English and mathematics. The manifesto, presented by Blair and Kelly, promised that 85% of 11 year olds would reach the expected standards of literacy and numeracy. However, despite the fact that the current aim is to achieve this target by 2006,[88] the manifesto gave no completion date.

Although most of the policies set out in the mini-manifesto remain the same as those in the Five Year Strategy, there is now a much stronger emphasis on the consumer. Whilst the term 'parent' was used only once in the Strategy, it is now a word omnipresent in Kelly's speeches. However, such a heavy focus on the parent is effectively alienating educationalists as Kelly discovered when faced with a jeering audience at the Secondary Heads Brighton Conference.[89]

So far there has been a rhetorical shift to the language of choice and parent-power. However, pressure for social class equalisation continues to undermine efforts to raise mainstream standards. The worry is that such an approach will do little to rectify the gross levels of under-achievement described in this briefing - the cavernous gaps in literacy and numeracy of both the adults of today and tomorrow.

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