

# A curriculum without foundation

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Peter Tymms has written recently (*BERJ*, August 2004) on the subject of measuring whether standards are rising in English and mathematics in primary schools based on pupil outcomes from national end of key stage tests. This article takes the position that the performance data debate is an interesting one but peripheral to a far bigger issue. Whether measurable (by standardised testing at ages 7 and 11) national standards in English and mathematics have risen or not, does not justify the drastic reduction of the intended 'broad and balanced' curriculum which has taken place to try to achieve the national percentage targets. The curriculum data on which the authors base their findings are supplied by the Qualifications and Curriculum Authority's own longitudinal monitoring of the school curriculum which has been carried out by the authors from 1996 to 2004.

## Introduction

Since 1996 the authors have been contracted by the Qualifications and Curriculum Authority (QCA) to carry out longitudinal monitoring of a nationally representative sample of primary phase schools' implementation of the curriculum.<sup>1</sup> One of the questions in the survey asks schools to detail the percentage of teaching time by subject by taught year and it is the data generated by this question over the eight years' monitoring that have revealed the extent of the reduction of the curriculum. With the pressure exerted by central government to raise standards in English and mathematics, the introduction of national numeracy and literacy strategies and the percentage 'success level' targets centrally set for national test pupil outcomes, some reduction of the foundation in favour of the tested core subjects was inevitable. It is the extent of the diminution of the foundation, as evidenced by the longitudinal data, which is alarming. A further feature is the reduction in teaching time for science, which as a nominal (tested at Key Stage 2) core subject should have been on a par with mathematics and English—but clearly has lost ground. The subtext (context) is provided by the Department for Education & Skills' (DfES) Primary

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National Strategy, which states that one of its priority targets ‘is to extend the sort of support provided by the literacy and numeracy strategies to all the Foundation subjects’ (DfES, 2003).

## **Background**

The DfES’s Five Year Strategy for Children and Learners stated that ‘as Ofsted [Office for Standards in Education] has highlighted, we face a challenge to make sure that every subject is taught well in primary schools, and that every child gets the benefit of a rich, well-designed and broad curriculum’ (DfES, 2004, p. 34). The concern is well founded, as our data will show, but the intention is not new. The idea of a broad and balanced curriculum is not a new one: ‘the curriculum for a maintained school should be a balanced and broadly based curriculum’ (Department for Education and Science [DES], 1988) was one of the central tenets of the 1988 Education Reform Act. However, in the course of the design and implementation of the first version of the National Curriculum (the post-1988 to Dearing review period), there was no explicit rationalisation for or linkage between any overall aims of the Curriculum and the Orders which established the 10 subjects. The question of why a school curriculum was built around a subject structure was never adequately addressed at national level and at the time this was a matter of repeated criticism (O’Hear & White, 1991, 1993) and still continues to be queried (White, 2004) despite the QCA’s national Aims and Priorities of the curriculum consultation prior to the Curriculum 2000 revisions.

Lawton, another critical commentator at the time that the original version of the National Curriculum was conceived, stated that

virtually all the enlightened views on curriculum planning are now agreed that subjects should be regarded as important only if they help reach other objectives. All this is ignored in the government’s consultation document: no justification is put forward for the selection of the foundation subjects; no arguments put forward to give priority to the core subjects; no attempts made to relate subjects to wider objectives. (Lawton, 1987)

Herein were sown in these early National Curriculum ‘designings’, the seeds of the current predicament—to be further exacerbated by the Standards agenda.

In practice the inevitable happened; a subject-centred curriculum saw the elevation of a number of subjects into a ‘core’. This then, with equal predictability, led to national testing of this core. In structural terms, this immediately established ‘territories of priority’ between the tested core subjects (English, mathematics and science) and the foundation subjects (the rest). In terms of teaching and learning this narrow concept of a (politically) valued core curriculum (because it was tested) reinforced shallow teaching and learning practice, i.e. teaching to the test, testing curriculum subdomains which were judged suitable for ‘assessment’ by test items, pupils becoming ‘test-wise’, etc.

It is interesting, to briefly digress, to look at an extract from an Organisation for Economic Cooperation and Development (OECD) report published at about the time that teachers in England were struggling with the ‘new’ linear, subject-based

curriculum and its associated plethora of statements of attainment masquerading as an assessment system.

The curriculum cannot be conceived as some kind of final and fixed entity, a list of finite 'learning areas'. It should be constructed as an intersection between:

- (a) the perceived or hypothesised needs of individual pupils;
- (b) the structure and evolution of knowledge conceived as disciplines and tools for learning;
- (c) changing realities, beliefs, values and ideologies of society. (Skilbeck, 1990)

The authors feel that the strictly subject-based National Curriculum in operation in England has led to (i) the superiority of subject-based knowledge, almost to the exclusion of cross-curricularity, (ii) the undervaluing of practical knowledge, (iii) undue priority being given to written as opposed to oral forms of presenting knowledge (the first casualties of the standard assessment tasks/tests were speaking and listening and practical activities), and (iv) the superiority of knowledge acquired by individuals over that developed by groups of pupils working together (the mistrust of collaborative learning in favour of competition), in the 16 years during which the National Curriculum has been in existence.

Anyone who has worked in classrooms or in school-based educational research over that period would accord with the idea that the curriculum is designed to preserve certain interests and that fact is the real barrier to a root and branch ideological change. If we are looking to a future, and a new curriculum review is surely inevitable, a focus on 'learning how to learn' should mean that subject content is less likely to dominate. The concept of a teacher as a facilitator of learning has implications for pupils and teachers alike. Being able to cope with 'not knowing what they do not know' is going to be a key skill for both.

Young (1999), in a *BERJ* piece now over five years old, posited some key features for a 'curriculum for the future'; they bear repetition:

- (a) a transformative concept of knowledge which emphasises its power to give learners a sense that they can act on the world;
- (b) a focus on the creation of new knowledge as well as the transmission of existing knowledge;
- (c) an emphasis on the interdependence of knowledge areas and on the relevance of school knowledge to everyday issues.

In the light of the 'subject structure vs. aims and values' curriculum design debate, it is informative to look back at the QCA's 'Aims and priorities of the curriculum' consultation exercise in 1997 prior to the latest revisions and version of the National Curriculum in 2000. The QCA in a national questionnaire survey asked all schools two open-ended questions: What do you and your staff consider the main aims of the curriculum to be? What are the priorities at your key stage (1, 2, 3 or 4 as applicable)? The responses for Key Stages 1 and 2 (KS1 and KS2) as shown below in Table 1 indicate a strong social, moral, spiritual and cultural values and

Table 1. Themes reported as aims by key stage

Key Stage/question	KS1 %	KS2 %
<i>Physical, social, moral, spiritual and cultural values and development</i>	80	76
Development of self-awareness (personal development)	58	63
Academic development and development of skills	59	59
<i>Emphasis on English and Mathematics</i>	57	53
<i>Broad and balanced curriculum—all-round education</i>	53	56
Curriculum related to real world and real life	42	43
Positive learning environment	38	33
Principles of curriculum planning	32	39
Excellence—high expectations—future targets	28	31
<i>School—community—parent partnerships</i>	27	24
Quality of teaching—good teaching strategies	21	29
Empower teachers	13	13
<i>Stress individual subjects</i>	11	12
Provision of feedback through alternative forms of assessment— self-assessment—record keeping	6	7
Stress the importance of exams	1	1
Information technology—new technologies	10	13

development agenda (80% KS1, 76% KS2) expressed by the schools. Although there was the to-be-expected support for ‘emphasis on English and mathematics’ (57% KS1, 53% KS2), there was almost as much support for ‘broad and balanced curriculum’ (53% KS1, 56% KS2) and only limited support for ‘stress individual subjects’ (11% KS1, 12% KS2) (QCA, 1998). The outcome of the consultation was a reconfirmation of the subject structure and a four-page introduction in the handbook for primary teachers on the theme of ‘The school curriculum and the National Curriculum: values, aims and purposes’ (DfEE, 1999). As Alexander stated at the time of the ‘Aims’ consultation exercise: ‘there is little point in proposing a grand statement of educational purposes for the next century if the curriculum as prescribed and transacted does not reflect them’ (Alexander, 1997, p. 42).

### The sample

Since 1996 the authors have been collecting, through the form of an annual questionnaire survey, curriculum implementation data from a representative sample of primary schools<sup>2</sup> as a part of QCA’s longitudinal monitoring programme. Tables 2a, b and c show the 2004 sample mapped against the national profile of schools by type, region and size, indicating a robustly representative sample and a returned sample of 37%, 802 out of 2162 primary phase schools.

The survey question from which the data are used to provide the findings for this article is one which asks the head teacher/senior manager ‘In your school what is the teaching time for the following subjects over one year? Please give the approximate percentage of the time spent on each subject’ (Appendix 1). The teachers are additionally guided as follows: ‘where subjects are taught together in a topic, please estimate the percentage of time spent on individual subjects’.

Table 2a. Type of school: national profile and MCA sample

School type	National		MCA Sample	
	Frequency	%	Frequency	%
Infant	1,964	10.1	143	17.8
Junior	1,733	8.9	100	12.5
First	1,236	6.3	34	4.2
Primary	12,610	64.5	476	59.4
Middle & First	22	0.1	1	0.1
Middle	179	0.9	6	0.8
Independent	1,796	9.2	42	5.2
Total	19,540		802	

Table 2b. Region—maintained schools: national profile and MCA sample

Region	National		MCA Sample	
	Frequency	%	Frequency	%
East Midlands	1,732	9.7	80	10.5
Eastern	2,101	11.8	82	10.8
Inner London	708	4.0	24	3.2
North East	959	5.4	32	4.2
North West & Merseyside	2,662	14.9	106	13.9
Outer London	1,154	6.5	49	6.4
South East	2,719	15.2	136	17.9
South West	1,985	11.1	83	10.9
West Midlands	1,907	10.7	73	9.6
Yorkshire & Humberside	1,934	10.8	94	12.4
Total	17,861		760	

Table 2c. Size of school—maintained schools: national profile and MCA sample

School size	National		MCA sample	
	Frequency	%	Frequency	%
Up to 100	2,702	15.1	97	13.0
101–200	5,426	30.4	201	26.9
201–300	5,445	30.5	256	34.3
301–400	2,692	15.1	109	14.6
401–500	1,208	6.8	61	8.2
501–600	243	1.4	9	1.2
601–700	121	0.7	11	1.5
701–800	17	0.1	1	0.1
801–900	7	0.1	1	0.1
901 and over	0	0.0	1	0.1
Total	17,861		747	

From the authors' review of literature on similar longitudinal curriculum surveys, little has been found. Cassidy (1999) refers to primary schools cutting teaching time in history, geography and design and technology because of the focus on literacy and numeracy, but uses the authors' longitudinal survey data to evidence her article. Wiggins and Tymms (2000) surveyed 100 primary schools in England about the effect of Key Stage 2 testing on the narrowing or broadening of the curriculum, reporting that subjects which are not assessed by national testing are given less prominence in the school's curriculum.

## **Data and discussion**

In 2002 Ofsted's annual report stated that the primary schools' 'curriculum should be balanced in that it allows the adequate development of each area. Each major component should have breadth, balance and relevance and should incorporate a progression in the acquisition of knowledge and understanding'. This statement was picked up in the DfES's Five Year Strategy for Children and Learners and given an imprimatur that 'as Ofsted has highlighted, we face a challenge to make sure that every subject is taught well in primary schools, and that every child gets the benefit of a rich, well-designed and broad curriculum' (DfES, 2004, p. 34).

The problem is that the above intention is contradicted by the quantitative data from our longitudinal monitoring of primary phase schools, which indicate a far from broad and balanced curriculum profile. The longitudinal data reveal a curriculum skewed in the direction of English and mathematics to the detriment of science, the humanities and the arts. Looking first at Key Stage 1, Table 3 shows that only three subjects have increased in percentage teaching time since the 1996–97 academic year—two of those are English and mathematics, the third is the difficult to quantify information and communications technology (ICT). The third supposedly 'core' subject, science, has decreased in percentage teaching time over that period by more than any other subject. Geography and history have fared badly too, both decreasing by a full percentage point over the period—from not a very high percentage teaching time allocation to begin with. Clearly, Ofsted's definition of a 'major component' (Ofsted, 2002) does not extend much beyond English and mathematics. English teaching time peaked in 2002 (29.2%) and 2003 (29.3%)—almost one-third of the available whole curriculum teaching time—while 2004 shows a slight decrease (28.7%). There is a similar story in mathematics with the peak of 2003 (22.2%) decreasing slightly in 2004 (21.7%), still well over one-fifth of the total available teaching time for all the curriculum. Figure 1 supplies a clear visual representation of the English and mathematics dominance over the foundation subjects at Key Stage 1.

There is a similar story at Key Stage 2 but here the percentage gain for English and mathematics over the period has been even more pronounced, with English increasing its percentage teaching time by 3.7% and mathematics by 2.6%. Although science as a core tested subject at Key Stage 2 (not at Key Stage 1) could

Table 3. Key Stage 1: average percentage teaching time

	English	Maths	Science	D&T	ICT	History	Geography	Art	Music	PE	RE	PSHE
1997	26.6	19.8	10.1	4.9	3.9	4.8	4.8	5.9	4.8	6.7	4.9	5.1
1998	28.3	20.8	9.8	4.7	3.9	4.5	4.6	5.5	4.7	6.6	4.4	4.1
1999	28.8	21.8	9.6	4.2	4.6	4.2	4.2	5.0	4.3	6.4	4.7	4.5
2000	–	–	–	–	–	–	–	–	–	–	–	–
2001	28.7	21.7	9.3	4.1	4.9	3.9	3.9	4.9	4.2	6.7	4.7	3.9
2002	29.2	22.0	8.5	4.0	4.7	3.7	3.7	4.7	4.1	6.8	4.8	3.1
2003	29.3	22.2	8.5	4.1	4.8	3.8	3.9	4.7	4.0	6.8	4.6	3.5
2004	28.7	21.7	8.6	4.1	5.0	3.8	3.8	4.7	4.0	6.8	4.69	3.6
% change	+2.1	+1.9	–1.5	–0.8	+1.1	–1.0	–1.0	–1.2	–0.8	+0.1	–0.3	–1.5

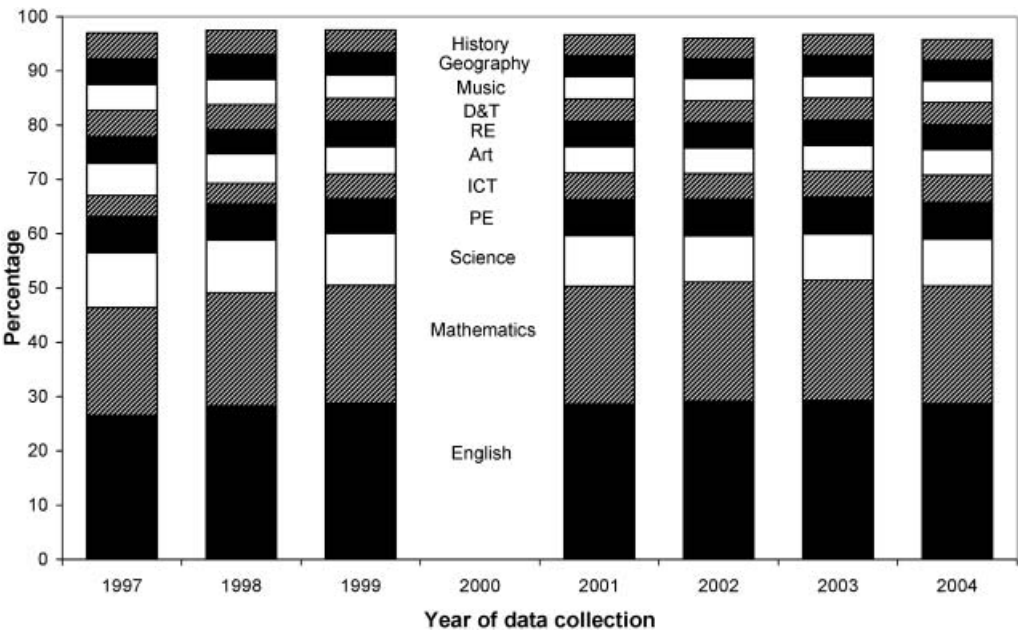


Figure 1. All subject areas Key Stage 1

be expected to increase its percentage time allocation, the reverse has happened. In 1997 science was allocated 11.4% teaching time by the sample schools; in 2004 that percentage has reduced by 1.6% to 9.8%, such is the power exerted by the policy imperatives of hitting national government targets in English and mathematics. Table 4 also charts the demise of the humanities subjects, with geography's teaching time allocation reducing by 1.5% (5.6% 1997, 4.1% 2004) and history's by 1.6% (5.7% 1997, 4.1% 2004) over the period surveyed. The arts subjects suffered similarly, with art reducing in teaching time percentage by 1.2% and music by 0.7% between 1997 and 2004. Figure 2 shows the compression of the foundation subjects at Key Stage 2.

The year-on-year data also reveal some interesting trends across school years. For example, at Year 1, science teaching time decreases by 1.3% and at Year 2 by 1.7% across the period 1997–2004. This is during a period when English teaching in Year 1 increases by 1.9% and in Year 2 by 2.3%, with similar increases for mathematics (Year 1 +1.8%, Year 2 +2.0%). Every other subject (with the exception of the ambiguously cross-curricular ICT) registers a deficit percentage for Years 1 and 2 in the period under survey (see Table 5).

Across the four-year span of Key Stage 2 the data reveal some interesting findings for the period 1997–2004. As at Key Stage 1, the percentage year-on-year increases of mathematics (Year 3 +2.6%, Year 4 +2.7%, Year 5 +2.7%, Year 6 +2.8%) and English (Year 3 +3.5%, Year 4 +3.4%, Year 5 +3.9%, Year 6 +4.3%) continue inexorably. However, as science is a tested subject at the end of Key Stage 2 (unlike



Table 4. Key Stage 2: average percentage teaching time

	English	Maths	Science	D&T	ICT	History	Geography	Art	Music	PE	RE	PSHE
1997	23.0	19.3	11.4	5.1	4.1	5.7	5.6	5.5	4.7	7.2	5.1	4.4
1998	24.6	20.6	11.1	4.9	4.1	5.2	5.2	5.2	4.6	7.2	4.6	4.0
1999	26.7	21.6	11.2	4.2	4.6	4.6	4.5	4.6	4.1	6.8	4.8	4.1
2000	.	.	.	.	.	.	.	.	.	.	.	.
2001	26.9	22.0	10.3	3.9	5.0	4.2	4.1	4.4	3.9	7.1	4.5	3.4
2002	27.2	22.1	9.8	3.9	5.0	4.1	4.1	4.3	3.9	6.8	4.7	2.9
2003	27.1	22.2	9.7	4.0	5.0	4.2	4.2	4.3	4.0	7.0	4.7	3.2
2004	26.7	21.9	9.8	3.9	5.1	4.1	4.1	4.3	4.0	7.0	4.6	3.2
% change	+3.7	+2.6	-1.6	-1.2	+1.0	-1.6	-1.5	-1.2	-0.7	-0.2	-0.5	-1.2

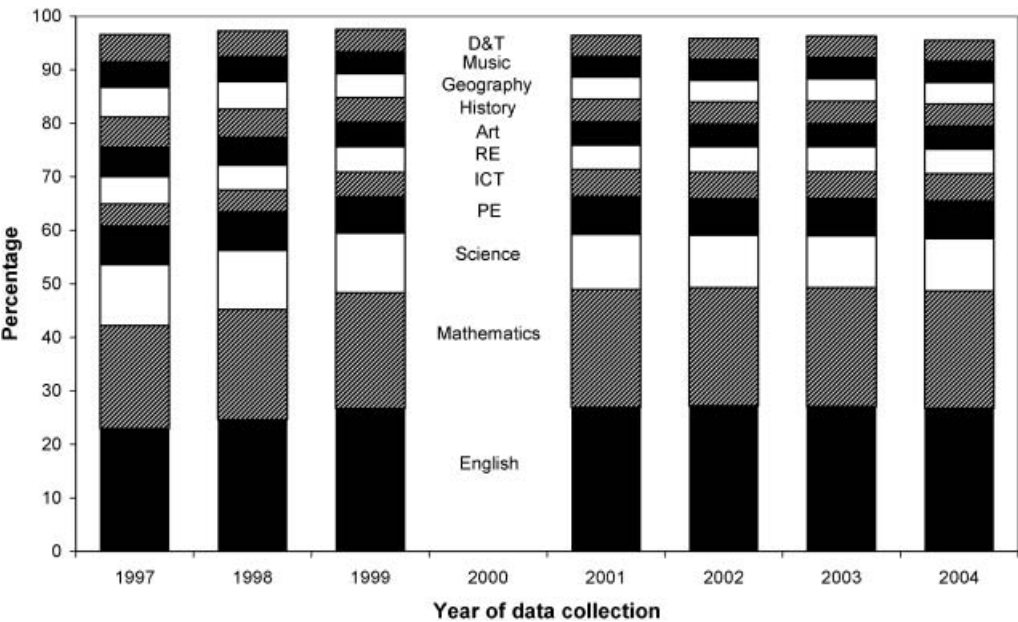


Figure 2. All subject areas Key Stage 2

at the end of Key Stage 1), one would expect to see some percentage increase in the teaching time allocated to science—not while the standards policy imperative demands English and mathematics teaching to the exclusion of almost all else. Science percentage teaching time actually reduces throughout the Key Stage 2 years, peaking with a Year 5 reduction of  $-1.8\%$  and Year 6 of  $-1.7\%$  (see Table 6).

Table 5. Degree of change in average percentage teaching time between 1997 and 2004 by year group at Key Stage 1

	Year 1		Year 2	
	% increase	% decrease	% increase	% decrease
English	1.9		2.3	
Mathematics	1.8		2.0	
Science		1.3		1.7
Design and technology		0.8		0.8
ICT	1.1		1.1	
History		0.9		1.0
Geography		0.9		1.0
Art and design		1.2		1.1
Music		0.8		0.7
Physical Education	0.1		0.1	
Religious Education		0.3		0.3
PSHE		1.5		1.0

Table 6. Degree of change in average percentage teaching time between 1997 and 2004 by year group At Key Stage 2

	Year 3		Year 4		Year 5		Year 6	
	% inc	% dec	% inc	% dec	% inc	% dec	% inc	% dec
English	3.5		3.4		3.9		4.3	
Mathematics	2.6		2.7		2.7		2.8	
Science		1.6		1.5		1.8		1.7
D&T		1.1		1.1		1.2		1.2
ICT	1.0		1.0		1.0		1.0	
History		1.5		1.6		1.7		1.6
Geography		1.4		1.5		1.6		1.6
Art & design		1.2		1.3		1.2		1.2
Music		0.8		0.8		0.8		0.8
PE	No change		No change		0.2		0.2	
RE		0.4		0.5		0.5		0.5

Table 6 reveals how the foundation subjects generally record heavier percentage losses in both Year 5 and Year 6 (geography Year 5 –1.6%, Year 6 –1.6%; history Year 5 –1.7%, Year 6 –1.6%; art Year 5 –1.2%, Year 6 1.2%), presumably as English and mathematics gain further teaching time allocations to ensure that government percentage targets for test outcomes are met.

Despite a slight decrease in time allocations for both English and mathematics in 2004 (possibly related to the National Primary Strategy?), no additional teaching time was offered to art or music or the humanities. Of the foundation subjects at Key Stage 2, design and technology (3.9%) and music (4%) are allocated the least amount of teaching time.

Figures 3 and 4 show the disparity over time even more graphically. Figure 3, percentage change in subjects between 1997 and 2004 at Key Stage 1, reveals that apart from a small percentage gain by Physical Education, all the foundation subjects have lost teaching time over the period. At Key Stage 2, Figure 4 shows that all the foundation subjects have lost ground and that even between the core subjects there is a change in time allocation of 5% range between English and science and 4% between mathematics and science over the years surveyed.

## Conclusion

The main evidence from the longitudinal data for the period 1997 to 2004 indicates a primary curriculum dominated by teaching time allocated to English and mathematics, a situation caused by a range of central policy requirements. This has led to the overall reduction in teaching time allocated to the foundation subjects and possibly even more crucially within the current climate of concern over secondary school and higher education ‘pick up’ of science, to the cutting back of the teaching time allocated to science.

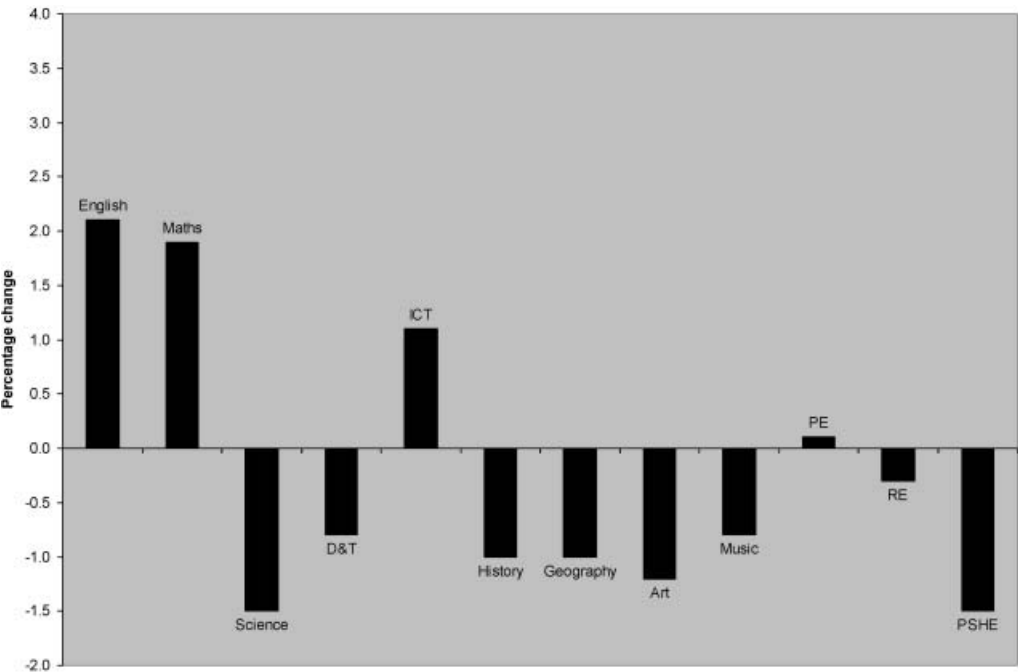


Figure 3. Percentage change 1997–2004 Key Stage 1

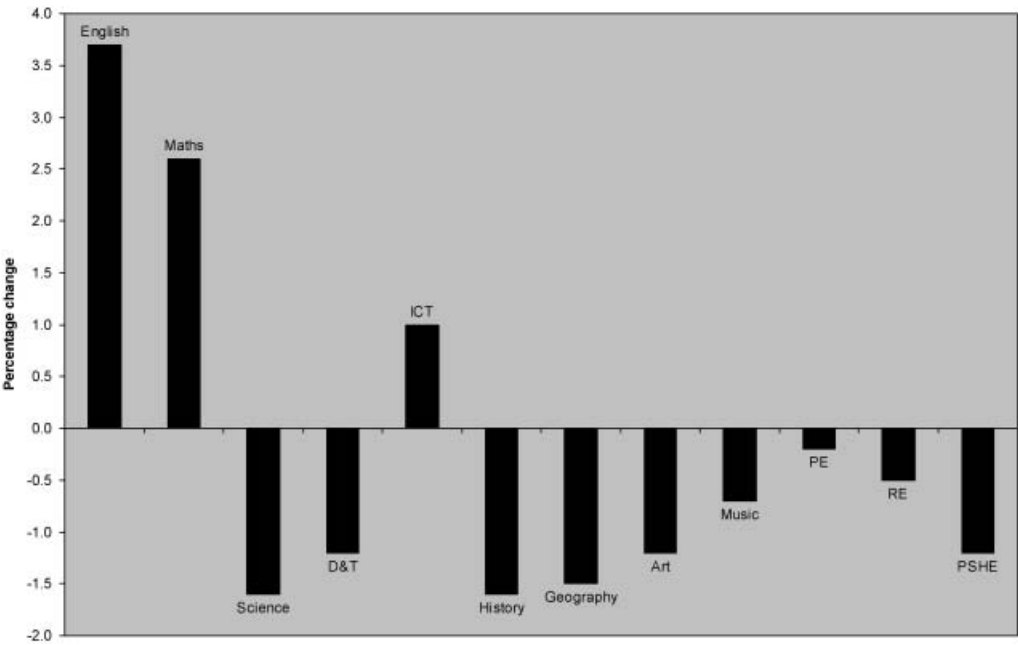


Figure 4. Percentage change 1997–2004 Key Stage 2

Another longitudinal survey on which the authors are working, researching models of professional development for teachers of English, mathematics and science (see Boyle *et al.*, 2004), is already evidencing the effects of this for science teaching. In the 2004 professional development survey data nil percentage (0%) of science teachers reported that they had received professional development workshops of two or more days within their local education authority. The same data revealed that 10% of mathematics teachers had been supplied with professional development workshops of two or more days by their local education authority. The marginalisation of the foundation subjects and now the marginalisation of science within the core subjects has been monitored over the seven years of the survey. It is to be hoped that the intentions expressed in *Excellence and enjoyment* (DfES, 2003) go beyond the rhetoric, or the curriculum profile at the end of the next seven years could be even less that of a broad and balanced menu.

## Notes

1. The monitoring research was originally designated the School Sampling Project (1996–2003) and is now titled the Monitoring Curriculum and Assessment (MCA) project.
2. Curriculum data are also collected from a national sample of secondary schools by the authors for QCA.

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### *B Allocating time for your school's curriculum*

‘There are no statutory time allocations for National Curriculum subjects. It is up to each school to determine the amount of time needed for its children to cover the programmes of study successfully in all subjects.’

B1 In your school, what is the teaching time for the following subjects over one year? Please give the *approximate percentage of the time* spent on each subject. Please note: Where subjects are taught together in a topic, please estimate the percentage of time spent on individual subjects.

[illegible]