
STAFFING SECONDARY SCHOOLS IN THE NINETIES

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ACKNOWLEDGEMENTS

We are extremely grateful to the Secondary Heads Association, Headmasters' Conference, Girls' Schools Association and the Engineering Council for the opportunity to carry out this study. Our gratitude also to BP, Hewlett Packard, IBM, Lloyds Bank, Lord Charteris, Mercers' Company and Save British Science for their sponsorship.

We are particularly indebted to the Steering Committee: Christopher Martin (HMC), Roger Haslam (SHA) and Dr John Williams (Engineering Council) for their incisive comments and continuing support.

Valuable help in carrying out the fieldwork and analysing the results was provided by Barbara Roberts, Pauline Zientek and Anne Moores from the Education and Employment Team of the University of Manchester. Louise McCluskey patiently and skilfully turned our scribble into an elegant typescript.

Finally, we should like to express our appreciation to the headteachers for their time and patience in providing us with information. To them our warmest thanks.

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August 1991.

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SUMMARY

In a national representative sample of 208 schools in 1990, 40% reported that they were under-staffed. Of these, 57.9% said that they coped by using teachers from other subjects, 31.4% by having larger classes and 10.6% by fewer periods. One of the reasons for inadequate staffing was difficulty in filling vacancies.

During the calendar year 1990 the 208 schools, with a staff establishment of 10,607 gave rise to 1,307 vacancies. Headteachers reported that in 9.0% of the cases no appointment could be made, and in a further 24.4% one was made only with great difficulty. This occurred not just in the 'shortage' subjects, but ran across the whole range of the national curriculum.

The main reasons the headteachers gave for not being able to make satisfactory appointments were no applicants (24.2%), too few applicants (3.8%) or poor quality of applicants (36.9%).

The difficulty of making appointments could be expected to show in the appropriateness of the qualifications of those appointed and the quality of teaching. The headteachers reported that, on average, about one in eight classes in years 7-9, and one in ten in years 10 and 11 were taught by teachers lacking a main qualification in the subject. About a quarter of the teaching was described as adequate or less, technology and modern languages came out worst, and art and English best.

Headteachers are increasingly making temporary appointments, a quarter of which had arisen because there had been no suitable applicant for a permanent post, 30.2% to maintain flexibility in staffing while making changes, and 32.6% to cover for maternity leave, illness and secondments.

There was an expectation that the national curriculum would increase the requirement for staff, particularly in those subjects which have yet to form part of a core curriculum, which maths and English effectively are at present. However, these data were gathered in late 1990 before the new arrangements for KS4 had been announced so that it is likely that the anticipated demand for modern languages and technology is the most significant. The increases here should be matched by reduction elsewhere since the teaching week will be the same. The continual modifications to the national curriculum are a source of considerable concern to headteachers.

Headteachers generally welcomed the opportunity of delegated budgets, but were concerned that their actual staffing costs were greater than they would be receiving under the formula. Two-thirds said that this was likely to be the case, because they had older more experienced staff (76.9%), a higher average number of allowances (42.7%) or a number of protected posts (23.1%).

The headteachers therefore expected to have to make savings on teaching staff resulting in a higher pupil to teacher ratio (PTR). But they also hoped to be able to use some of the savings to improve the number of support staff and the availability of books and equipment.

Schools are currently finding great difficulty in meeting their staffing requirements. Future demand for staff will be affected by the two major changes in school organisation: the national curriculum and LMS. The precise details of both have yet to fully emerge, but it seems likely that they will pull in opposite directions with the national curriculum establishing an ideal requirement, which budgetary constraints will make it difficult to meet. Hence we may be faced with the paradox of teachers being made redundant while there are shortages. Scarce resources will mean difficult decisions.

I. INTRODUCTION

- 1.1 Headteachers in planning their staffing for the coming years have to reckon with two of the major changes of the Education Reform Act, 1988: the national curriculum and local management of schools. The national curriculum, although its delivery is down to the schools, in effect, sets a requirement for teachers; the sum of money delegated to schools determines what can be afforded. Two criteria have to be met which may not be wholly compatible.
- 1.2 In making their plans, headteachers also have to take into account current shortages. Although teacher provision has received considerable attention of late, it has been mainly from the supply side. The statistics are mostly gathered by the Department of Education and Science. Under the 1944 Education Act, it is responsible for ensuring that there are sufficient facilities for the training of teachers for service in schools, and it is naturally principally concerned to monitor how well it is meeting its obligations in this respect. A consequence, however, is that there is not always the information one might wish to have about the other side of the coin, recruitment, which is the responsibility of the providers. We found¹ recently, for example, that an important factor in the different understandings of the state of teacher provision held by the DES and by the local authorities and headteachers was that the problem as it manifested itself to schools, too few applicants, was not something on which the DES systematically collected data.
- 1.3 Also, impressions of teacher supply have tended to be coloured by maths and the physical sciences where shortages have been acute. Less evidence is available for other subjects.
- 1.4 We were therefore very pleased to be commissioned by the Secondary Heads Association, the Headmasters' Conference, the Girls' Schools Association and The Engineering Council, with the generous financial support of BP, Hewlett Packard, IBM, Lloyds Bank, Lord Charteris, Mercer's Company and Save British Science, to undertake a demand-side study of staffing in all ten subjects of the national curriculum. We were asked to report on how headteachers see the current staffing situation and what they anticipate will be their needs as they seek to implement the national curriculum in the context of financial delegation. In particular, we were asked to:
 - (a) establish the current availability of teachers, support staff and teaching facilities in a representative sample of secondary schools in relation to the curriculum offered;
 - (b) assess the staffing requirements of the national curriculum in a sample of schools;
 - (c) identify the extent of the match between the staffing currently available and what the national curriculum will require;
 - (d) determine the impact of LMS on the staffing of the schools;

- (e) compare the information from the sample survey with the national projections on teacher supply and demand provided by the DES;
 - (f) clearly set out the position with regard to the supply of, and demand for, teachers in relation to the National Curriculum and LMS.
- 1.5 To meet these objectives we carried out, in late 1990, a survey of a random sample of all maintained secondary schools in England and Wales taking pupils to the age of 16. Because we were asked to focus on Key Stages 3 and 4 of the national curriculum we left aside sixth form colleges and the staffing of sixth forms. Our aim was a ten per cent sample which would have been 361 schools. Of those contacted, 328 initially agreed to take part.
- 1.6 A questionnaire was sent to schools in November 1990, and by the end of January 1991, after reminders, 208 completed returns had been received. In the meantime, 51 schools had contacted us to say they were not able, after all, to provide the information. Most explained (see Appendix A) either that they did not have the details we were seeking, or they did not have time to draw them together. It is a fair assumption that many of the schools from which we did not hear will have been in the same boat. The level of the response is therefore itself significant as an indication of the difficulties schools are having in taking on board the national curriculum and LMS. The schools which did participate (208/361, 57.6%) reflect closely the national distribution by type and region.
- 1.7 In reporting our findings, we begin, in Chapter II, with the current staffing situation in terms of level and quality. How this relates to recruitment we explore Chapter III. In Chapter IV, we attempt to assess what the national curriculum (as far as it is known) means for the amount of teaching required and how the requirements are likely to be met. Headteachers' response to LMS and their perceptions of its probable effects on staffing and other resources are the subject of Chapter V.
- 1.8 In Chapter VI starting from the base of current staffing we make projections in terms of what the national curriculum appears to require and what seems to be affordable under LMS. These demand-side projections are compared to the DES's² from the supply standpoint. From demand, supply and cost we try to see what might happen in the coming years.

II. CURRENT STAFFING

- 2.1 In order to assess the staffing base from which the headteachers were seeking to implement the national curriculum in the context of LMS we explored their perceptions of it in terms of both level and quality.

Staffing Level

- 2.2 Two-fifths of the headteachers indicated that their current staffing level is inadequate (Table 2.1). As Table 2.2 shows, this seemed to arise mainly in relation to modern languages, but English, maths, science and geography were also prominent.

Table 2.1: Current Staffing Level

School Type	%Adequate	%Not Adequate
Comprehensive to 16 (<i>N</i> =75)	66.6	33.3
Comprehensive to 18 (<i>N</i> =103)	60.2	39.8
Grammar (<i>N</i> =13)	53.8	46.2
Secondary Modern (<i>N</i> =14)	28.6	71.4
All Schools (<i>N</i>=205)	60.0	40.0

Table 2.2: Staffing by Subject

Subject	N ¹	%Inadequate
Modern Languages	57	27.8
English	48	23.4
Geography	44	21.5
Maths	42	20.5
Science	42	20.5
History	42	20.5
Technology	37	18.0
Art	34	16.6
PE	32	15.6
Music	26	12.7

1. In 205 sample schools.

- 2.3 Headteachers tended to cope with insufficient staff for a particular subject by using staff from other subjects. In just under a third of cases they, however, resorted to larger classes, and in about a tenth, to dropping some teaching periods. Using teachers from other subjects most often took place in subjects like PE, history, geography, maths and English (Table 2.3). In modern languages and music this was less of an option, resulting in larger classes or fewer periods.

Appropriateness of Qualifications

- 2.4 The adequacy of the staffing level and the difficulty of making appointments could be expected to show in the appropriateness of the qualifications of those teaching particular subjects.

TABLE 2.3: Coping with Insufficient Staff

Subjects	%Staff Outside Subject	%Larger Classes	%Fewer Periods
English (N=48)	62.5	27.1	10.4
Maths (N=42)	64.3	28.6	7.1
Science (N=42)	54.8	35.7	9.5
Modern Languages (N=57)	47.4	35.1	17.5
Technology (N=37)	54.1	35.1	10.8
History (N=42)	69.1	23.8	7.1
Geography (N=44)	65.9	27.3	6.8
Art (N=34)	55.9	38.2	5.9
Music (N=26)	30.8	38.5	30.8
PE (N=32)	68.8	28.1	3.1

2.5 Table 2.4 indicates that the headteachers reported that, on average, about one in eight classes in years 7-9, and one in ten in years 10 and 11 were taught by teachers lacking either a degree or teachers' certificate in the subject. These levels are comparable, subject by subject, with those found by the DES in its Secondary Schools Staffing Survey, 19883. Interestingly, when 'science' (rather than the separate sciences) is used as the category it comes out lowest of all, since mismatches here tend to involve mainly biologists teaching the physical sciences. About one in twelve science periods seem to have been taught, however, by non-scientists and this bears out our study of *Teacher Provision in the Sciences*⁴.

TABLE 2.4: Extent of Mismatch

Subject	Years 7-9	Years 10,11
PE	11.9	13.2
Technology	12.4	11.7
Modern Languages	13.1	11.6
Maths	14.8	11.3
English	14.0	10.9
Geography	14.7	10.1
History	17.1	8.6
Music	11.3	8.6
Art	10.6	8.0
Science ²	8.4	7.6

1. Percentage of Classes Taught by Teachers without Degree/Certificate in the Subject in sample of 208 schools.

2. Mismatch here tends to be within the category, for example, biologists teaching physics.

Quality

2.6 Appropriateness of qualification is not necessarily the same as quality of teaching, and we attempted to get headteachers to rate the quality of the teaching in their schools by subject. Heads are notoriously reluctant to do this, and it takes a brave head to say the teaching of say maths in their school is no good. Nevertheless 184 did rate the teaching in years 7-9, and 182 in years 10 and 11.

2.7 As Table 2.5 shows, in general, they were least happy about teaching in technology and modern languages (again). Art and English came out best with about a fifth of teaching rated adequate or less.

TABLE 2.5 Quality of Teaching

Subject	%Adequate or Less ¹	
	Years 7-9	Years 10,11
Technology	33.9	35.2
Modern Languages	30.6	34.3
Music	37.0	31.4
History	38.6	30.8
PE	26.1	29.7
Maths	21.1	23.6
Geography	25.7	23.3
Science	24.3	21.4
Art	21.7	20.3
English	21.7	18.1

1. Of schools, years 7-9 (N = 184) years 10, 11 (N = 182).

Conclusion

2.8 In considering the likely future demand for teachers it is important to take note of the present position which may have been affected by part shortages and other factors. A weakness of DES projections of teacher supply is that they wipe the slate clean accepting the existing situation as is and carrying it forward without improvement. In the present study about 40 per cent of the headteachers considered that they were under-staffed and about a quarter of the teaching was rated adequate or less.

III. RECRUITMENT

- 3.1 Current staffing reflects the difficulty of making appointments. During the calendar year 1990, the 208 sample schools with a staff establishment of 10,607 (FTEs) gave rise to 1,307 vacancies, equivalent to 12.3 per cent of staff establishment. Headteachers reported that for nine per cent of the posts no appointment could be made, and a further 24.4 per cent were filled only with great difficulty.

TABLE 3.1: Ease of Filling Vacancies

Subject	%No Difficulty	%Some Difficulty	%Great Difficulty	%Not Filled
English (<i>N</i> =131)	32.1	42.7	21.4	3.8
Maths (<i>N</i> =150)	42.0	30.7	21.3	6.0
Science (<i>N</i> =177)	31.6	27.7	29.4	11.3
Modern Languages (<i>N</i> =193)	17.6	29.5	37.8	15.0
Technology (<i>N</i> =102)	38.2	39.2	18.6	3.9
History (<i>N</i> =53)	43.4	32.1	15.1	9.4
Geography (<i>N</i> =58)	37.9	29.3	19.0	13.8
Art (<i>N</i> =58)	50.0	36.2	10.3	3.4
Music (<i>N</i> =52)	19.2	36.5	36.5	7.7
PE (<i>N</i> =78)	38.5	26.9	28.2	6.4
Other Subjects (<i>N</i> =255)	49.8	20.4	19.2	10.6
All Subjects (<i>N</i>=1307)	36.3	30.2	24.4	9.0

TABLE 3.2: Reasons for No Satisfactory Appointment

Subject	%No Applicants	%Too Few Applicants	%Poor Quality of Applicants	%Other ¹
English (<i>N</i> =11)	18.2	36.4	36.4	9.1
Maths (<i>N</i> =23)	17.4	47.8	30.4	4.3
Science (<i>N</i> =27)	14.8	33.3	48.1	3.7
Modern Languages (<i>N</i> =47)	27.7	27.7	40.5	4.2
Technology (<i>N</i> =9)	22.2	22.2	33.3	22.2
History (<i>N</i> =8)	12.5	37.5	25.0	25.0
Geography (<i>N</i> =10)	40.0	40.0	20.0	0.0
Art (<i>N</i> =3)	0.0	33.3	66.7	0.0
Music (<i>N</i> =11)	9.1	36.4	54.5	0.0
PE (<i>N</i> =8)	37.5	25.0	37.5	0.0
Other Subjects (<i>N</i> =41)	34.1	34.1	29.3	2.4
All Subjects (<i>N</i>=198)	24.2	33.8	36.9	5.1

1. Including late resignation, appointment not taken up etc.

- 3.2 Difficulty in filling ‘vacancies occurred not just in science and maths, but across the subjects of the national curriculum. Table 3.1 shows that it was hardest to recruit in modern languages followed by music and science. Art apparently has least difficulty. Modern Languages and music emerged also in the DES January 1991 vacancy survey⁵ as the subjects with most posts unfilled.

- 3.3 The main reasons the headteachers gave for not being able to make satisfactory appointments were no applicants (24.2%), too few applicants (33.8%) or poor quality of applicants (36.9%). There were variations with subject. Table 3.2 shows that in subjects like music and art the difficulty was poor quality of applicants, but in most other subjects, including those least able to make satisfactory appointments, it was because too few people were coming forward. These findings bear out those from a study⁶ we made of teacher turnover during the calendar year 1989 where about half the vacancies attracted three applicants or fewer, and about a quarter of the posts had to be re-advertised.
- 3.4 The experiences behind the numerical picture of the present study are brought out vividly in the headteachers' comments:

Too Few Applicants

Three national adverts for science, English and modern languages posts drew less than ten between them!

(11-16 Comprehensive, West Midlands)

In summer 1990 - two applicants for French/German MPG, three for physics/science MPG, three for English, etc. in a 'very easy' school with 'nice' kids and exam results twice the national average. It bodes ill for the future.

(11-16 Comprehensive, North West)

Teacher supply is desperate. Advertisements on MPG or MPG + A (main professional grade + allowance A) produce little response. The last few such advertisements have produced no appointment or, in most cases, the appointment of the only 'suitable' applicant.

(11-18 Grammar, South East)

The teacher shortage now appears to be across the whole range of subjects. I did not receive a single applicant from a college or university even for the March advertisements.

(11-16 Comprehensive, East Anglia)

The languages is a major worry. We only had two applicants this year for the head of department post, both of whom had other interviews lined up!

(11-16 Comprehensive, Wales)

Poor Quality of Applicants

I have really struggled to find good quality teachers. In modern languages I've invited people for interview' who a few years ago I would have totally disregarded. I cannot emphasise enough how demoralising it is to let unqualified and temperamentally unsuited people into the profession simply because there is no one else.

(11-18 Comprehensive, South West)

My major concern relates to the quality of the teaching staff which will be available in future years. Recently we have experienced difficulty in making suitable appointments due to the small number of applicants for the posts. The number of male applicants for MPG posts has declined considerably.

(11-18 Comprehensive, West Midlands)

Major difficulties being experienced in appointing language and RE teachers. The calibre of applications, even for senior posts, is progressively disappointing, with fewer candidates with specialist degrees and PGCE.

(11-18 Comprehensive, Yorkshire and Humberside)

Clearly increasing recruitment difficulties in too many subject areas - insufficient applicants, unsuited to job. Mismatch with existing staff to curricular demands of the future. Modern languages is the greatest worry - 11 enquiries for a C allowance post – nine of which were not wholeheartedly supported by referees – and that well away from London. Too many technologists unable, unwilling, unlikely to be retrained and too long in the one job to understand willingly what is now being required of them. Applies elsewhere as well.

(11-18 Comprehensive, North)

Although this year we have been able to maintain appropriate 'specialist' teaching in most areas, the quality of 'specialists' is cause for concern, for example in English – one unqualified teacher, one teacher qualified in media studies, one PE teacher, one foreign national. Maths – one mature entrant, short-trained under county" emergency scheme, non-graduate, poor teacher. Science – two part-time filling full-time post inadequately. Biologist doing physics job. Biologist doing chemistry job. One foreign national, graduate, but having difficulty adapting to teaching here. Technology – two mature entrants, trained for CDT under emergency scheme, but without proper technology qualification. Art – one good artist but technically unqualified. Modern Languages – two foreign nationals unqualified and struggling. Two not very good teachers over-promoted.

(11-18 Comprehensive, South East)

Temporary Appointments

- 3.5 A possible response to not finding anyone suitable to take a permanent full-time post is to make a temporary appointment to tide the school over. Headteachers are increasingly making temporary appointments. In our study of teacher turnover⁷ in 1989 we found just over a quarter of the inflow was temporary (18.2% full-time and 7.6% part-time) compared with less than an eighth of the leavers (8.0% full-time and 3.9% part-time).

3.6 In the present study covering 1990, 457 of the posts were identified as being filled on a temporary basis. As Table 3.3 shows, a quarter of the appointments were made because there had been no suitable applicant for a permanent post, and just under a third to maintain flexibility in the light of all the changes. Temporary appointments other than cover amounted to 29.3 per cent of the posts filled.

TABLE 3.3: Reasons for Temporary Appointments to Full-Time Permanent Posts

Subject	%No Suitable Applicant	% Maintain Flexibility	%Cover ¹	%Other ²
English (<i>N</i> =65)	12.3	30.8	44.6	12.3
Maths (<i>N</i> =60)	20.0	36.7	31.6	12.7
Science (<i>N</i> =61)	24.6	32.8	26.2	16.4
Modern Languages (<i>N</i> =62)	45.2	19.4	24.2	11.3
Technology (<i>N</i> =28)	32.1	21.4	32.1	14.3
History (<i>N</i> =23)	8.7	39.1	43.4	8.6
Geography (<i>N</i> =23)	26.1	26.1	34.7	13.0
Art (<i>N</i> =16)	18.8	56.3	18.9	6.3
Music (<i>N</i> =14)	28.6	50.0	7.1	14.3
PE (<i>N</i> =25)	24.0	12.0	52.0	12.0
Other Subjects (<i>N</i> =80)	30.0	30.0	32.6	7.5
All Subjects (<i>N</i>=457)	25.6	30.2	32.6	11.6

1. For maternity leave, staff illness, secondment etc.

2. Including late resignations, appointment not taken up, appointee did not obtain QTS.

3.7 There were, however, differences with subject. In modern languages and technology the main reason for temporary appointments was ‘too few applicants’, in art and music ‘to maintain flexibility’, and in PE, English and history as ‘cover’. Although the various indicators of recruitment yield somewhat different results modern languages emerges consistently across all of them as the subject where there appears to be the greatest difficulty.

IV. IMPACT OF THE NATIONAL CURRICULUM

- 4.1 As originally envisaged, the national curriculum in secondary schools was to have consisted of ten subjects plus religious education to be taught through from 11 to 16. It was to have been phased in at Key Stage 3 from 1989 with first maths and science, followed by English and technology in 1990, history and geography in 1991, and modern languages, art, music and PE in 1992. Key Stage 4 was to have followed on with English, maths and science in 1992, technology in 1993, history and geography 1994, and modern languages, art, music, PE in 1995.
- 4.2 The composition of Key Stage 4 has been changed subsequently, but that was the position in December 1990 at the time our questionnaire was completed. Since English, maths and PE already form, in effect, a core curriculum from 11-16, it is perhaps not surprising, as Table 4.1 shows, that the headteachers were expecting that there would have to be major increases in the teaching devoted to the other subjects being made compulsory for all pupils, particularly modern languages, but also history, geography, technology, music and science. Since the teaching week remains the same presumably the increases envisaged here were to have been balanced by reduction in the teaching of non-national-curriculum subjects with the possibility of shedding some staff from these areas.

TABLE 4.1: Impact of National Curriculum¹

Subject	Teacher Periods Required ²		
	More	Fewer	Difference
Modern Languages	53.7	5.1	+48.6
History	45.2	7.8	+37.4
Geography	44.6	7.9	+36.7
Technology	46.3	10.2	+36.1
Music	41.2	6.8	+34.4
Science	37.9	6.8	+31.1
Art	28.8	9.6	+19.2
English	22.6	12.4	+10.2
Maths	19.2	13.6	+5.6
PE	15.3	19.8	-4.5

1. Of 177 schools.

2. Periods required in 1993-4 compared with 1990-1.

- 4.3 Implementing the national curriculum therefore involves headteachers in a major planning exercise to achieve an appropriate mix of staff:

There is an imbalance of staff skills and requirements. It is too simplistic to consider just the national curriculum. Some staff will be partially qualified in national curriculum but for various reasons they cannot be retrained. There will have to be various management manipulations to ensure that the provision is met.

(11-16 Comprehensive, North West)

And that will have been complicated by supply difficulties:

The difficulty in recruiting French, Welsh and science staff makes implementation of these subjects a nightmare prospect, especially when Key Stage 4 comes on stream. Options are already restricted, classes are in the 25-30 range for most subjects so there is not much room for manoeuvre. (I've an awful feeling too that it will be the special needs pupils who will suffer from the lack of expertise available in schools.)

(11-18 Comprehensive, Wales)

But of even greater concern to heads has been the lack of information and the prospect of constant changes.

Lack of Information

In our opinion the major impact is going to be an extension of the school teaching week from 30 to 34 periods. This is problematical since we calculate that there is a requirement for over 100 hours above the 1265 contractual obligation. No one seems very interested in the problem. If we know the facts referring to SATs v GCSE at Key Stage 4 we would try to find a solution to the unanswerable.

(11-18 Comprehensive, South West)

In view of the uncertainties still remaining with regard to Key Stage 4, any estimates given in the preceding pages is subject to error. For example, the history and geography need has been based on minimum requirements, as has technology. We have not yet solved the quart in the pint pot so that effects on second modern language, classics, etc. is not yet known.

(Grammar, South East)

Unpredictability of requirements makes decisions on which staff to 'lose' very difficult. We must avoid releasing experienced staff in for example humanities and then find we need replacements 12 months later. Is it naive to hope that when the working party reports are all in we shall actually be able to plan!

(11-16 Comprehensive, West Midlands)

Constant Change

The Key Stage 4 is a nightmare and confuses planning today. I would challenge the appropriateness of a ten-subject curriculum for all in year 10-11, especially many with SEN today.

(Secondary Modern, North West)

Forward planning is impossible while Key Stage 4 remains so uncertain. Constant change and discussion concerning foundation subjects create an impossible situation and unrest among staff.

(11-18 Comprehensive, London)

Impossible to make long-term plans until Key Stage 4 is the subject of statutory orders giving a clearer view of requirements of teacher allocation.

(11-18 Comprehensive, Wales)

- 4.4 Since the headteachers wrote these comments some of the uncertainties have been resolved. The ten-subject Key Stage 4 has been modified considerably. Only English, maths and science remain as compulsory subjects to be examined, modern languages and technology continue as compulsory elements though not necessarily examined, history and geography will have to be present in some form⁸, PE is to be retained but art and music become optional⁹.
- 4.5 Of the large increases in teaching in particular subjects envisaged in Table 4.1, it is therefore those for modern languages, technology and science which are the most significant. As we can see in Table 4.2, headteachers consider that in modern languages and science these will have to be met mainly by recruitment presumably because past deficits will have left little slack in the system. In technology, recruitment is also seen to be necessary to meet the increased load although more use of existing staff is also thought possible.

TABLE 4.2: Meeting the Increased Load

Subject	Percentages Expecting to Meet Increased Load By:				Don't ² Know
	Recruitment	Existing Staff in Subject	Staff from Other Subjects	Larger Classes/ Fewer Options	
English (N=40)	45.0	35.0	22.5	0.0	10.0
Maths (N=34)	38.2	50.0	5.9	0.0	14.7
Science (N=67)	65.7	41.8	7.5	4.5	4.5
Modern Languages (N=95)	78.9	18.9	9.5	2.1	13.7
Technology (N=82)	41.5	46.3	14.6	7.3	3.6
History (N=80)	33.8	45.0	15.0	6.3	7.6
Geography (N=79)	32.9	46.8	24.1	8.8	7.6
Art (N=51)	43.1	37.3	17.6	0.0	13.7
Music (N=73)	45.2	41.9	6.8	1.4	9.5
PE (N=27)	44.4	44.4	22.2	0.0	14.8

1. Of schools where more teacher periods expected to be required; percentages do not add to 100, since more than one response possible.

2. including requirement unlikely to be met

- 4.6 But whether that recruitment (leaving aside supply difficulties) can be afforded is doubted:

It is clear already that the implications of national curriculum implementation have not been thought through. In terms of resources, staffing and support, the burden is too much to cope with. The reorganisation and redesigning of existing courses is proving too much for some. To be offered no additional support or staffing is intolerable. Resources materials are unlikely to be ready so the teachers and the pupils are suffering. In brief, the reforms have not been thought through; the pace does not make for considered judgements and properly designed courses and resources. The solution is not LMS or GM status. Central government is responsible for the mess.

(11-18 Comprehensive, Wales)

- 4.7 The national curriculum is taxing the management skills of headteachers, but, as it evolves, the context in which it is to operate is also changing as schools gain control of their own budgets under LMS. The likely effects of LMS are the subject of the next chapter.

V. EFFECTS OF LMS

5.1 At the time of our survey just over half the sample schools were operating a fully delegated budget. This will rise to three-quarters by 1992, 90 per cent by 1993 and all by 1994.

5.2 Headteachers generally welcomed the opportunity:

I have found the first six months of LMS very beneficial. Resources are scarce, but we can maximise the use of what we have. This should improve as more areas are delegated.

(11-18 Comprehensive, South East)

The school has welcomed the introduction of LMS. The first year's experience suggests that current staffing levels can be maintained and that the budget can be used much more efficiently in all areas than hitherto.

(11-16 Comprehensive, Greater London)

For years I have felt that the school was underfunded both in terms of staffing (teaching and support), equipment and repairs. Formula funding when fully implemented should give the school more flexibility and more money. It should be noted, however, that the difficulty of obtaining staff in Greater London might scupper plans.

(11-18 Comprehensive, Greater London)

5.3 But there was concern that their actual staffing costs were greater than they would be receiving under the formula. Two-thirds said this 'was likely' to be 'the case because as Table 5.1 shows, they had older and more experienced staff (76.9%), a higher than average number of allowances (42.7%) or a number of protected posts (23.1%).

TABLE 5.1: Reasons for Staffing Costs being Higher than Formula Allocation¹

Reasons	%Comp to 16 (N=46)	%Comp to 18 (N=54)	%Gram (N=8)	%Sec. Mod (N=9)	%All (N=117)
Older more experienced staff	78.3	74.1	87.5	77.8	76.9
Number of incentive posts	43.5	44.4	25.0	44.4	42.7
Number of Protected posts	28.3	24.1	0.0	11.1	23.1
Other ²	23.9	22.2	0.0	0.0	19.7

1. Percentages do not add to 100 because more than one reason could be given.

2. Include over-staffing, SPA allowances, uncertainty over staffing SEN

LMS has some advantages – local flexibility in particular. However, the fact that teachers in my school cost an average of £1,500 more than the borough average presents me with an ongoing cut each year (3.0% for the next three years). In my view this is a fundamental flaw in the whole scheme and renders the original advantages useless.

(11-16 Comprehensive, Greater London)

National average cost do not pay the real costs of staffing where staff are loyal and experienced. The authority has talked of paying '89 levels of incentive allowances in 1991/2! The question of resources has led the governors to seek GMS. They want to be able to manage effectively at the local level. Without additional funding this school will scarcely be able to stay in the black!

(11-18 Comprehensive, South West)

In theory, under the authority's scheme, my school is a relative winner. In practice I have lost two teachers, a clerk, a part-time technician and an assistant caretaker. How successful I am in balancing my budget I just don't know because to date I haven't been given any meaningful data. The future of financial year 91-92 is obscure.

(11-16 Comprehensive, North West)

- 5.4 The headteachers therefore expected, as Table 5.2 shows, to have to make savings on teaching staff resulting in a higher pupil to teacher ratio (PTR). But they also hoped to improve the number of support staff and the availability of books and equipment.

TABLE 5.2: Effects of LMS

Staffing and Resources	Per Cent ¹ Expected Change		
	Improve	Worsen	Difference
PTR	21.6	47.6	-26.0
Teaching staff	26.3	38.7	-12.4
Secretarial and Clerical staff	48.7	23.3	+25.4
Technical staff	38.2	19.9	+18.3
Materials	40.6	26.0	+14.6
Equipment	42.6	30.3	+12.3
Books	38.3	28.2	+10.1
Repairs	43.6	37.2	+6.4

1. Of 208 schools.

Our PTR has to deteriorate (we are overstaffed). If that can be met by a rising roll (as it stands) then improvements can be made while holding the teaching staff static. 'Repairs' are a totally unknown quantity from year to year.

(11-18 Comprehensive, Wales)

We will deliberately phase out A-level choices like geography and RE which are very expensive in staffing. This slight deterioration in PTR and staffing will enable us to have 46.0 staff rather than 46.6. This is deliberate to enable us to sustain the current doubling of capitation which has been very beneficial and create a small pool of additional A allowances for retention/recruitment. It will also enable us to phase into post-TVEI due in 1995 without having to lose staff when the one FTE enhancement disappears.

(Grammar, South East)

In a school suffering from falling rolls there comes a point at which the school can no longer offer a full curriculum. There will be an increase in the number of jobs available for staff paid at lower rates therefore an increase in young staff, part-time and temporary contracts. The ebb and flow of staffing will increase with a consequent de-stabilising of schools. Schools with particular social difficulties in vulnerable areas will not be able to cope with fixed costs (maintenance, etc.). Money will therefore be saved from staffing lines to other lines to cope with these problems. Fluctuating numbers will also have a serious effect on staffing.

(11-18 Comprehensive, North West)

- 5.5 Under-resourcing in schools over a number of years - as distinct from LMS which is a financial mechanism - means that one in every two headteachers reported their current resources (books, materials, equipment, accommodation) were inadequate or very poor. Table 5.3 identifies the deficiencies. For every subject, without exception, the most common resource problem was shortage of equipment and materials, particularly in science and technology.

TABLE 5.3: Resources

Subject	Percentages ¹ Expressing Concern About:			
	Shortages of Equipment/ Materials	State of Repairs	Insufficient Specialist Rooms	Groups Too Large For Rooms
English	48.5	39.6	36.6	15.8
Maths	59.4	41.6	43.6	22.8
Science	72.3	44.6	56.4	36.6
Modern Languages	57.4	34.7	48.5	16.8
Technology	72.3	31.7	48.5	28.7
History	53.6	31.7	24.8	10.9
Geography	52.5	29.7	33.7	9.9
Art	47.5	27.7	24.8	12.9
Music	49.5	26.7	38.6	15.8
PE	48.5	34.7	42.6	11.9

1. Of 101 schools which identified their resources as inadequate very poor; multiple response so percentages do not add up to 100.

- 5.6 The provision of support staff, as Table 5.4 shows, was considered to be nearer to requirements, with less than one in five schools describing secretarial and clerical support as less than adequate, but not so with technical provision, with double, over 40 per cent of schools, dissatisfied.
- 5.7 These findings accord with recent surveys from HMI¹⁰, the ASE¹¹ and Humberside LEA¹² on science provision. All identified serious shortages of equipment, technicians and laboratory space.

TABLE 5.4: Percentage Ratings of Support Staff Provision

Level	Secretarial	Clerical	Technical
Very good	14.4	9.9	4.9
Good	26.2	25.2	18.2
Adequate	42.1	41.6	35.5
Poor	16.8	21.3	33.0
Very poor	0.5	2.0	8.4

1. Of 205 schools.

- 5.8 From this low resource base schools are expected to deliver the national curriculum. To do this properly nine out of ten said they would require additional resources – support staff, as well as books, materials, equipment and accommodation.

Developing new programmes of study requires new learning materials and modes. New equipment will be needed to develop national curriculum science, technology, and maths. Development of IT across curriculum teams (technology, arts) demand the creation of new space facilities. Ex-sixth form areas in this school will provide some of this space.

(11-16 Comprehensive, North West)

Science and technology will need considerable improvements in accommodation, equipment and materials. Most other subjects need more appropriate text books – additional learning materials.

(11-16 Comprehensive, South East)

We need: (1) clerical support for assessment and recording – filing and updating of records; (2) permanent clerical support for library/research facilities; (3) technical and clerical support for more practical pupil centred teaching styles; (4) information technology technical support to allow teachers to use IT skills educationally.

(11-18 Comprehensive, Yorkshire and Humberside)

- 5.9 With LMS it is important to distinguish two issues: first, as a system of financial control, and, second, the sum available for purchasing whatever has to be purchased. In general, headteachers welcomed LMS on the first point, but their concern over the under-funding of education continues. Whether the sum available will enable heads to staff the national curriculum we take up in our concluding chapter.

VI. PROJECTIONS

- 6.1 Schools are currently finding great difficulty in meeting their staffing requirements. There are concerns about under-staffing, difficulties with recruitment, and with the deployment of teachers of appropriate quality and qualifications. Demand for staff is subject to two major changes in school organisation: the national curriculum and LMS.
- 6.2 We know from the evidence presented in Chapter IV that headteachers expect the national curriculum will increase the number of teacher periods needed in the subjects which it specifies, and that a major part of this requirement will have to be met from recruitment. In order to get some idea of what this extra demand might mean in terms of teacher numbers, we asked headteachers to try to estimate their likely staffing requirements to 1993-4. At one point in the questionnaire (page 12) we asked them what they will require to implement each subject of the national curriculum and, at a later stage, widely separated from it (page 17), but in the same format, we asked how many staff they expected to be able to afford under LMS.
- 6.3 Headteachers found it difficult to make these estimates for all the reasons we have discussed, but the results grossed up and weighted give, in Table 6.1, projected requirements for staffing Key Stages 3 and 4 of the National Curriculum, but do not include sixth-form teaching.

TABLE 6.1: Headteachers' Projections of Teachers Needed^{1, 2}

Subject	Base Year	Projected Need		
	1990-91	1991-92	1992-93	1993-94
English	20,094	20,008	20,472	20,698
Maths	19,181	19,331	19,572	20,125
Science	24,238	24,441	24,890	25,499
Modern Languages	15,112	16,365	17,197	17,995
Technology	19,509	19,686	20,227	20,668
History	8,330	9,114	9,572	9,910
Geography	8,888	9,824	10,082	10,399
Art	7,713	8,349	8,197	8,477
Music	4,846	5,322	5,517	5,836
PE	12,310	12,534	12,690	12,896

1. Does not include sixth form staff.

2. Based on information from sample schools grossed up to give national figures using weightings of Table A.1.

- 6.4 Table 6.2 similarly projects what teacher they thought they would be able to afford from the money allocated under LMS. In every case, it was fewer teachers than they reckoned they needed. In science, for example, the requirement to 1993-94 was expected to grow by 1261, but the number affordable to fall by 831.

TABLE 6.2: Headteachers' Projections of Affordability of Teachers^{1, 2}

Subject	Base Year	Projected Affordability		
	1990-91	1991-92	1992-93	1993-94
English	20,094	19,893	19,987	20,234
Maths	19,181	19,087	19,190	19,610
Science	24,238	24,113	24,311	23,407
Modern Languages	15112	16,031	16,516	17,272
Technology	19,509	19,018	18,247	20,020
History	8,330	9,062	9,354	9,602
Geography	8,888	9,609	9,738	9,949
Art	7,713	8,018	8,197	8,252
Music	4,846	5,351	5,530	5,666
PE	12,310	12,314	12,327	12,365

1. Does not include sixth form staff.

2. Based on information from sample schools grossed up to give national figures using weightings of Table A.1.

6.5 These estimates are summarised in Table 6.3 with increases envisaged in the requirement of teachers of modern languages, technology and science of 19.1, 5.9 and 5.2 per cent respectively. These would mean an extra 2883 (on 15112) teachers in modern languages, 1159 (on 19509) in technology and 1261 (on 24238) in science. Substantial growth was also envisaged in the requirement for music, history, geography, and art teachers, but this may have been overtaken by the modifications to Key Stage 4 of the curriculum.

TABLE 6.3: Headteachers' Projections to 1993-94

Subject	Need ¹	Affordable ²
Music	+20.4	-2.9
Modern Languages	+19.1	-4.0
History	+19.0	-3.1
Geography	+17.0	-4.3
Art	+9.9	-2.7
Technology	+5.9	-3.1
Science	+5.2	-8.2
Maths	+4.9	-2.6
PE	+4.8	-4.1
English	+3.6	-2.2

1. Change in full-time equivalent over current staffing levels.

2. Staffing affordable compared to requirement in 1993-94.

6.6 It is interesting to compare these demand estimates with the DES recently published¹³ projection of supply and demand to 1997 shown in Table 6.4. Although on a quite different basis to those of Table 6.3 – our headteachers' were estimating the likely increased requirement over the next three years, the DES is calculating the likely gap between supply and demand in a particular year, 1997 – the order of difficulty comes out remarkably similar suggesting that the DES calculations too had the old model of the national curriculum in mind.

TABLE 6.4: DES Projections to 1997

Subject	Supply ¹	Demand ²	Difference
Music	4,500	10,500	-88.9
Geography	11,200	12,900	-24.1
History	11,400	14,000	-22.8
Modern Languages	15,500	18,500	-19.4
Art	9,900	11,400	-15.2
Technology	18,800	20,300	-8.0
PE	13,700	14,400	-5.0
Science	30,100	30,700	-2.0
English	23,400	23,600	-0.9
Maths	22,100	22,000	+0.5

1. Based on current trend.

2. Based on current class sizes with national curriculum fully implemented as originally envisaged.

- 6.7 The projections, however, still stand for modern languages, technology and science, and both approaches forecast a growth in demand. The DES supply projections, however, indicate that there could be shortfalls in supply of 3000 (19.4%) in modern languages, 1500 (8.0%) in technology and 600 (2.0%) in science.
- 6.8 Over and above the difficulty of supplying the teachers, there is the problem of whether the schools will be able to afford them. Table 6.3 shows that in every case the schools thought that they would be able to afford fewer teachers than they would need. In modern languages there would be a deficit, on cost grounds, of 723 (out of 17995), technology 648 (out of 20668) and, in science 2092 (out of 25499). The solid row of minuses is striking.
- 6.9 The precise details of both the national curriculum and LMS have yet to fully emerge. But it seems likely that they will pull in opposite directions with the national curriculum establishing an ideal requirement, which the funds delegated to schools will make difficult to meet. The problem here is not, however, LMS but the funding made available through it. Scarce resources will mean difficult decisions, made more difficult by the moving goal posts of the national curriculum and assessment.
- 6.10 Staffing secondary schools is likely to remain a problem for the foreseeable future. How much of one will depend on the success of the government in supplying the teachers (and the silver lining to the cloud of the recession has been the boost here), and whether or not schools can afford to employ them. We may have the paradox of teachers being made redundant while, notionally, in national curriculum terms, there are still shortages.

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13. *Op. cit.* Ref. 2.

APPENDIX: METHODS

Sampling

- A.1 A ten per cent sample of all maintained secondary schools (excluding middle schools deemed secondary and sixth form colleges) in England and Wales was drawn from the Education Year Book 1990, by the random interval method. Although Table A2 shows that the listing does not correspond exactly with the breakdown by type of school provided for us by the DES, this seems to have been corrected in the sampling process with, for example, five schools classified in the Year Book as comprehensive 11-16 being returned as secondary moderns.

TABLE A1: Schools in Sample and Nationally

School Type	Survey (N=208)		England & Wales ¹ (N=3,618)	
	N	Per Cent	N	Per Cent
Comprehensive to 16	76	36.5	1,260	34.8
Comprehensive to 18	104	50.0	1,973	54.5
Grammar	13	6.3	151	4.2
Secondary Modern	14	6.8	215	5.9
Other	1	0.5	19	0.5

1. DES.

Response Rate

- A.2 The target was 361. In the autumn term (November) 1990, a letter, together with a reply form and prepaid envelope, was sent to the headteachers of all schools drawn in the sample requesting participation in the survey. Three hundred and twenty-eight agreed to take part.
- A.3 Each school agreeing to take part was sent a package containing a questionnaire with a prepaid envelope. By the end of January, 1991, 208 completed questionnaires had been returned. A further 51 schools had contacted us by letter or phone to explain their reasons for non-completion. Forty-six said the data required were not readily available and that they did not have the resources to draw them together. Two schools were unable to complete because of their headteachers' illness and two were in the process of closing. One school which was grant maintained decided the questionnaire did not apply to them. No replies were received from 108 schools, despite follow-up phone calls, so the effective sample was 208, a response rate of 57.6 per cent.
- A.4 Although somewhat disappointing the response rate is itself a comment on the lack of information many headteachers seemed to have to hand on their staffing position and their likely future requirements. The composition of the sample by school type, Table A.1, nevertheless, reflects well the national figures. Table A.2 shows the regional spread also corresponds closely with the national distribution.

TABLE A2: Regional Distribution of Schools

Region	Survey (N=208)		England & Wales ¹ (N=3,618)	
	N	Per Cent	N	Per Cent
North	12	5.8	223	6.2
North West	29	13.9	479	13.2
Yorkshire & Humberside	18	8.7	337	9.3
East Midlands	15	7.2	335	9.3
West Midlands	17	8.2	399	11.0
East Anglia	6	2.9	136	3.8
Greater London	26	12.5	437	12.1
Other South East	48	23.0	726	20.1
South West	21	10.0	314	8.7
Wales	16	7.7	232	6.4

1. DES.

Data collection and Analysis

- A.5 Detailed information was collected by questionnaire. It was constructed with the advice of headteachers and piloted in local schools. Since many of the heads took up the invitation to make individual comments the questionnaires were processed partly by hand.

