
Comparative Costs

Perspectives on Primary-Secondary Differences

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National Foundation for Educational research

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CHAPTER ONE

INTRODUCTION

The context

Since 1988, a considerable amount of research into the resourcing of education has been undertaken. It has been propelled by the increased transparency of individual schools' finances, under local management of schools (LMS). Financial management, hitherto something largely confined to local authority (LEA) officers and elected members, has become a necessary topic of study for all head teachers and members of school governing bodies. Research has focused on differences in funding across local education authorities; the varying sizes of the budgets of apparently similar schools in different LEAs; budgets generated by formula funding compared with those obtained by 'historic' allocation mechanisms; and the influence of particular formula elements such as those for additional education needs or for 'small' schools.

More recently, attention has turned towards differences between the funding of the primary and secondary phases of education. In order to inform the debate, and future funding decisions, LEAs have been looking in detail at the similarities and differences between running schools in each phase, and exploring mechanisms by which they can distribute budgets grounded in what teachers actually do in schools. It is these mechanisms with which this present report of research undertaken at the National Foundation for Educational Research (NFER) is chiefly concerned.

This introductory chapter will describe the background to the present position as regards the resourcing of schools in England and Wales, in order to contextualise the research findings reported in subsequent chapters. Chapter Two describes recent LEA approaches to activity-led staffing, mainly by focusing on the methods they have adopted. Chapters Three to Seven then deal with a series of issues central to establishing activity-led staffing models: in each of these chapters, key concerns are both identified and explored, to aid those who may take part in developing and implementing needs-led approaches in the future. In each chapter, national trends are clarified first, followed by an account of the perceptions of primary and secondary teachers in the schools which were surveyed. Chapter Eight provides a summary of the report's main findings and conclusions.

This report is based on four central sources of evidence:

existing work on activity-led staffing

All LEAs in England and Wales were asked to submit relevant documentation relating to work which they had undertaken with regard to ascertaining the comparative costs of educating pupils of different ages. A summary of the

initiatives appears in Chapter 2 and Appendix 2, although individual examples are unattributed in order to preserve confidentiality. In Appendix 2, those LEAs which have done a substantial amount of work in the area of activity-led staffing are listed.

a questionnaire survey of schools in both primary and secondary sectors to ascertain perceived resourcing needs

Questionnaires were sent to a random sample of 800 maintained schools in the primary sector (with an equal distribution between all-age primary, infants and junior schools) and a similar number of maintained secondary schools (half had a sixth form and half had not). Returns were received from 419 (52 per cent) of the primary sector schools and 307 (38 per cent) of the secondary schools. Details of administration and response rates are given in Appendix 1. The survey provided information about primary and secondary headteachers' perceptions of key resourcing issues.

case studies of a small sample of primary and secondary schools in order to explore needs in greater depth

Case studies were conducted in six primary and five secondary schools representing a range of size and geographical location (four country town/rural, four suburban and three inner city schools within eight LEAs). A total of 50 semi-structured interviews were conducted with staff at all levels, from newly-qualified teachers (NQTs) to senior management. All subjects of the National Curriculum were represented.

a review of key issues and concerns

Activity-led staffing necessitates decisions about the weight to be assigned to a broad range of different educational issues. Different activity-led staffing models reflect local assumptions or decisions for example about critical concerns such as class size, staff deployment, teaching contact and non-contact time, and material resources. Throughout the report, an attempt has been made to relate the issues raised by activity-led staffing to past research findings and to published statistics, that is to the best representation possible of what we know already.

For clarity of reporting, the evidence from these different sources has been combined wherever possible, with the respective sources explained.

Background issues

Rationales for allocating resources to schools have come under increasing scrutiny since the Education Reform Act, 1988. There would seem to be two principal reasons for this: Local Management of Schools (LMS) and the demands of the National Curriculum. First, it is important to examine some of the key national funding data, before exploring the special effects of LMS and the National Curriculum.

National funding of education

In April, 1995 the main trends in schools' funding in England between 1979/80 and 1993/4 were summarised by the Department for Education (DFE) as follows (GB. DFE, 1995):

- total expenditure (central and local government combined) rose by 28 per cent in real terms
- central government education expenditure rose by 151 per cent in real terms
- local government education expenditure rose by 11 per cent in real terms
- expenditure per full-time equivalent pupil increased by 56 per cent in real terms for nursery and primary schools (pupil numbers fell by seven per cent)
- expenditure per full-time equivalent secondary pupil increased in real terms by 51 per cent (secondary numbers fell by 35 per cent)

Government funding for education through the Training, Enterprise and Education Directorate (TEED), and other means, is not included in these reckonings. Kumar (1993) and Glennester and Low (1991) have pointed out that most of the increases that took place in the period indicated were accounted for by salary increases, enabling teachers to match those of comparable occupations.

In the DFE and OFSTED element of England's expenditure on education, the estimated expenditure by DFE and OFSTED was £7546 million for 1994/5. Grants to Local Authorities for 1994/5 were an estimated £2495 million, a reduction on the previous year.

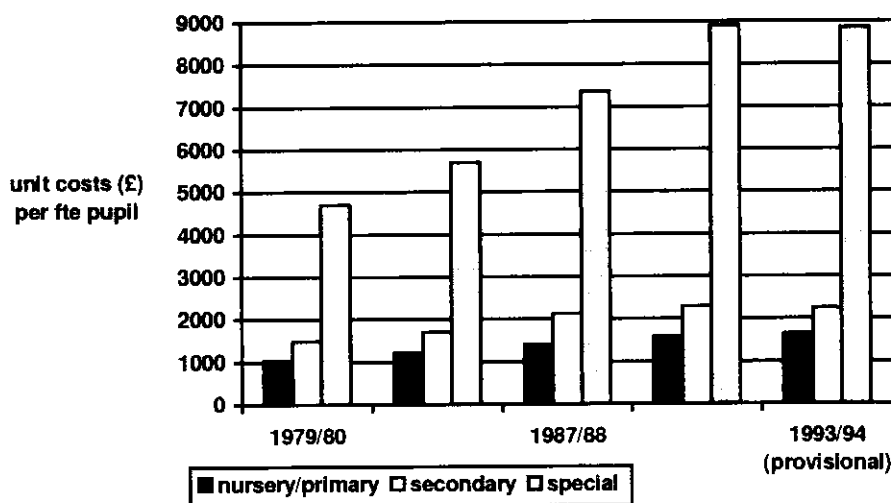
In the LEAs' element of expenditure in England, total current expenditure in 1994/5 was an estimated £19956 million, and has shown a decline in cash terms in the last two years. Net capital spending has risen in cash terms to an estimated £706 million in 1994/5, and this represents a reduction in real terms of approximately 25 per cent compared with 1979/80.

Between 1989/90 and 1993/94, the DFE has estimated that funding on the schools sector has largely been constant at about 60 per cent of the total education budget. Education expenditure as a percentage of Gross Domestic Product (GDP) decreased from 5.1 per cent in 1979/80 to 4.6 per cent in 1988/89, increased to 5.3 per cent in 1993/94, and is estimated at 5.2 per cent in 1994/95. Comparisons with other countries, which have to take careful account of other factors like the extent of private investment on education and training, showed in 1988, that while the UK was at 4.7 per cent, Germany was at 4.3 per cent, France at 5.1 per cent, and Sweden at 5.7 per cent (OECD. CERI, 1992).

These national figures obscure differences between county and metropolitan areas. Notable differences exist, for example, in total revenue expenditure on education: in the English counties it was estimated at £367 per head in 1993/94; in outer London, £397; in metropolitan districts, £416; in the Welsh counties, £440; and in inner London, £481 (CIPFA, 1995).

Possibly, the key funding trend that has a bearing on this report is the primary-secondary balance, as outlined above. To complete the picture of recent trends in primary-secondary funding, the following figure (Figure 1) shows the trend between 1979/80 and 1993/94 (provisional data). Net institutional expenditure in real terms increased by 44 per cent in nursery/primary schools, decreased by 2 per cent in secondary schools, and rose by 35 per cent in special schools. It is real terms unit costs, which reflect changes not only in expenditure but in pupil numbers, that demonstrate that the trend has been for an increase in each sector, by 56, 51 and 82 per cent respectively.

Figure 1 Unit public funding in real terms per pupil in LEA maintained schools, England (source: DFE, 1995)



Again, it should be noted that there are very wide variations between LEAs, even those of similar type (metropolitan, county, etc.) in terms of unit costs. Details of differences are reported annually by the Statistical Information Service of the Chartered Institute of Public Finance and Accountancy (CIPFA).

Local Management of Schools

The introduction of LMS has encouraged particular interest from schools, academic researchers, and a wider body of LEA officers in the mechanisms involved in resource allocation.

Although Circular 7/88 (GB. DES, 1988) stated that LMS formulae should be based on 'objective needs, rather than simply on historic spending, in order to ensure an equitable allocation of the available resources between schools' (para 99), many LEAs' initial formulae, in practice, replicated previous allocations in order to ease the transition to delegation. For example, the Chief Education Officer of one LEA (East Sussex, 1991) commented:

The different levels reflect policy decisions and assumptions over many years. In developing and introducing formula funding, the County Council deliberately chose not to upset those assumptions at that time.

correctness of that decision is reflected in the smooth introduction of Local Financial Management in East Sussex.

The Circular's 'objective needs' was a chimera and effectively, LMS (and the publication of Age-Weighted Pupil Units (AWPUs) across England and Wales) simply made plain a pattern of differential funding between the primary and secondary sectors which had applied for many years. It is this differential which has become the subject of vigorous debate and which prompted a House of Commons Education Committee report (GB. House of Commons, 1994a) into the disparity of funding between the sectors.

The debate runs alongside discussion of the global amounts spent on education by national and local government. It is concerned with the distribution of present budgets between sectors. Although there seems to be some consensus that the primary sector is under-funded, it is important to note that most recognise that it would be both politically and practically unacceptable to reduce funding to the secondary sector in order to remedy any primary shortfall. The House of Commons Education Committee, for example, emphasised the importance of 'continuity and stability in funding'.

Previous resource allocation mechanisms

The resource allocation mechanisms which applied before LMS came into operation were clearly and deliberately age-weighted. For example, after making allowances for small schools, teaching staff were generally allocated on a pupil-teacher ratio (PTR) which became more favourable the older the pupils, especially for the two public examination years. Age weightings also operated on capitation allowances; and school premises and equipment allocations were more generous for older pupils. Regulations enshrined a view of primary school space that did not take into account current teaching methods (involving, for example, practical activities, group work, flexible seating, movement around classrooms).

In the early years of implementation, there was discussion in the educational press, and elsewhere, of the differences between particular schools' pre-LMS and post-LMS budgets, and between budgets of schools within LEAs - the issue often being the use of social deprivation indices. Comparisons were also made between the Age-Weighted Pupil Units (AWPUs) operating in different LEAs. These were often not valid comparisons, however, as they did not take account of allocations outside the AWPU mechanism, both in the Aggregated School Budget (ASB) and outside it (in discretionary exceptions).

In their study of formula allocations to schools of different sizes, Bullock and Thomas (1992, p.5) warn that a school which would seem to have a high AWPU:

may, however, be at an overall funding disadvantage compared with a school in another LEA which is routing more funds through the 'special factors' component of the ASB.

Small schools accumulate the greatest benefit from fixed lump sum payments and Bullock and Thomas point out that there may be a considerable difference between the

value of the formula per pupil and the value of the AWPUP per pupil. In one of the schools they studied, this amounted to £112; in another, to £581. This anomaly may manifest itself in more favourable pupil-teacher ratios and smaller class sizes in small schools in both sectors. Generally, the difference reduces the larger the school.

Following the White Paper, *Choice and Diversity: a new framework for schools* (GB. DFE, 1992a), the DFE circulated a consultation paper (GB. DFE, 1993) on matters relating to LMS. This paper proposed that from April 1995 (April 1996 for inner London) LEAs be required to delegate 90 per cent of the Potential School Budget (PSB). The PSB was to be redefined: as from April 1993, LEAs were required to allocate 80 per cent of the ASB on the basis of pupil numbers. Thus the constitution of AWPUs was even more critical to resource allocation as the majority of available money was distributed via these units. This partly explains the fact that, following the earlier scrutiny of formulae mentioned above, attention began to focus on the actual weightings of the units within an LMS formula.

The demands of the National Curriculum

Another reason for this new focus was an increasing awareness of the changing demands made on schools by the National Curriculum. These, in turn, have brought new needs *vis-à-vis* staffing, administration and material resources.

It ought to be pointed out that LMS formulae were largely constructed prior to the phased implementation of the National Curriculum; anomalies in AWPUs have become more apparent as the National Curriculum has become established. The National Association of Head Teachers (NAHT) remarked:

It is likely that in implementing the National Curriculum, assessment, appraisal and LMS, the resources need element will not be directly in proportion to the number of pupils on roll and certainly not their ages. (NAHT, undated)

It also ought to be noted that all the reports have argued for better primary phase funding and have drawn attention to the increasing similarity between what teachers in the two phases actually do. There has, to date, been no substantial argument that the present balance in funding should be maintained, given adequate overall resourcing.

The content of the curriculum

The National Curriculum levels of attainment overlap between key stages (and thus between sectors): the revised Orders (GB. DFE, 1994a) represent increased flexibility in this respect. Furthermore, apart from a modern foreign language (for which provision is statutory only from Key Stage 3 - only a small number of primary schools include a modern foreign language in the curriculum), primary and secondary schools have to provide the same range of subjects.

However, the different requirements of specific key stages may imply differential resourcing. Having drawn up a resourcing model for implementing the National Curriculum in Key Stage 3 in 11-16 comprehensive schools of medium size (800 on roll), Coopers and Lybrand (1992) were reluctant to state that it would be appropriate

for Key Stage 4 (which had not been implemented at the time of the study). Considerations might include the high unit costs for subjects at GCSE with a small take-up (for example, music, drama and religious education).

On the other hand, it is argued (see, for example, Biddulph *et al.*, 1993) that the changes caused by the implementation of the National Curriculum has been most radical within the primary sector: the subject basis of the National Curriculum is more attuned to the traditional specialisms of the secondary school. The National Curriculum requires greater subject specialist knowledge than has hitherto been available in some primary schools (Alexander *et al.*, 1992), especially since science and technology have been introduced.

Alexander *et al.* (1992, p.2) recommend that 'every primary school should, in principle, have access to specialist expertise in all of the National Curriculum subjects and in RE' and they ask whether a generalist can 'reasonably be expected to profess expertise across a curriculum of the scope and complexity of that now required by law at Key Stages 1 and 2?'

They also state (p.5):

There is, in our view, no justification for the fact that Year 6 pupils are funded less generously than Year 7 pupils in secondary schools. This historical anomaly means that primary schools have insufficient scope to employ, for example, the degree of specialist expertise that is needed to achieve better quality subject teaching.

The increasing need for subject specialists in the primary sector, particularly in Key Stage 2, thus raises questions regarding traditional staffing models which operate on the assumption that, despite the move to an all-graduate entry to the profession, primary school teachers will be lower on the salary scales than colleagues in the secondary sector. There is also a wider range of incentive allowances available in secondary schools. One LEA cited the example of two schools each of 600 pupils:

	Primary school	Secondary school (11-16)
Head teacher	group 3	group 4
Deputy head	1	4
<i>cost per pupil</i>	<i>£16</i>	<i>£31</i>
A allowance	4	5
B allowance	3	4
C allowance	3	-
D allowance	-	4
<i>cost per pupil</i>	<i>£29</i>	<i>£64</i>
<i>total cost per pupil</i>	<i>£45</i>	<i>£95</i>

Clearly, the costs are higher in the secondary school, but the question is raised as to whether the different allocation of incentive posts equates to what is actually done in schools of this size in each phase.

Teaching techniques

The requirements of the National Curriculum are such that additional staffing may be necessary to allow for investigative methods and small group discussion; field visits for geography and history; and the opportunity to learn to swim, for example. Although such may have been a feature of good primary practice prior to the implementation of the National Curriculum, they have now become more or less standard practice and, arguably, this needs to be recognised in staffing models.

There is a further issue as regards the actual delivery of the National Curriculum in that primary schools operate mixed-age classes, sometimes because of positive decisions on internal, educational grounds but more often because of external pressures such as small size, fluctuating intakes and profile of overall school roll (Keys, 1995). Arguably, the management of such classes has become more complex where programmes of study for two key stages have to be covered.

Assessment and record-keeping

Concomitant with the National Curriculum has come statutory assessment at the end of each key stage. The administration of standard assessment tasks makes demands on teachers' time and the utilisation of additional support within the classroom (see, for example, Whetton *et al.*, 1992). In addition, systems for recording attainment targets reached by individual pupils within key stages have to be maintained by all teachers. In the primary sector, class teachers usually have to assess their pupil group in all subjects; in the secondary sector, teachers may have to assess larger numbers of pupils but in only one, or certainly a limited number, of subjects. The resultant workloads may thus be similar.

Planning and coordination

As well as actual subject knowledge and expertise, the structure of the National Curriculum requires a considerable amount of planning within and between key stages. Progression is a common issue throughout the National Curriculum. In particular, subject coordinators in Key Stages 1 and 2 have been found to be most effective if they are able to support and work alongside colleagues in the classroom. The implications of this for time caused the National Curriculum Council (1993, para 4.19) to urge the Secretary of State to review the balance of resources between the sectors. Her Majesty's Inspectorate (OFSTED, 1993, para 15) found that:

The provision and use of non-contact time varied considerably from school to school. In a quarter, there was no non-contact time of any significance. In the remainder, the maximum amount of recorded non-contact time was half a day per week.

A year previously, Her Majesty's Chief Inspector (HMCI) had noted the same features (GB. DES. HMI, 1992a). Alexander *et al.* (1992) observed that mostly allocations of non-contact time in primary schools were to senior staff. The effect of a non-teaching head on other staff's contact time is far more significant in a primary school than in a secondary school, given the respective ratios of head teacher to staff. But, as Biddulph *et al.* (1992) point out, the tasks which have to be carried out by senior management are similar in both phases and more can be delegated within the secondary school. The increasing management responsibilities of head teachers under

LMS meant that they were less able to teach classes in order to release class teachers for developmental work. This lack of time also affected the monitoring and planning functions of curriculum coordinators.

Although public interest lies chiefly in class sizes and this is clearly an important issue, the differential between pupil/teacher ratio (PTR) and actual class size is particularly significant in so far as it indicates the degree of non-contact time available. Traditionally, the differential between PTR and class size has been greater in secondary schools than in the primary sector.

Teachers in secondary schools have been accustomed to a certain amount of non-contact time during the school week, and those holding middle management posts (heads of department and heads of year) have had additional non-contact allocation in recognition of management functions. Although this may be inadequate in the light of current demands and allocation may be different in theory and practice, primary school colleagues have pointed out the anomalies.

The report initiated by the National Union of Teachers (NUT) on the costs of implementing the National Curriculum in secondary schools (Coopers and Lybrand, 1992) argued that:

It is difficult to see how the extra time for implementation and for teacher assessment identified in the case study schools can be found without displacing some other activities unless teachers can be persuaded to enlarge their time funds permanently, or unless schools allocate timetabled time for assessment (para 423).

It is now increasingly questioned whether the cross-phase management and administration demands flowing from the National Curriculum and LMS are sufficiently different as to justify considerable discrepancies between the contact ratios in primary and secondary schools. It is disputed whether one of the government's underpinning principles for LMS - that formulae should be based on an assessment of schools' objective needs - is being fulfilled.

Classroom assistance and technical support

Another consideration on which attention has focused since the Education Reform Act 1988 is that of classroom assistance and technical support. Once again, reports suggest that the pressures of the National Curriculum are sufficiently evenly spread for comparable non-teaching support to be available throughout the key stages. Traditionally, secondary schools have enjoyed more non-teaching support - clerical, technical or classroom-based - than have primary schools which have depended more on voluntary assistance. Comparing two hypothetical school each of 600 pupils, one LEA suggests that the support staff allocation would be as follows:

	Primary	Secondary
clerical assistants	scale 2 (term time only) scale 2 (p/t)	scale 3 (f/t) scale 3 (term time only)
technicians	-	scale 2 (term time only) scale 2 (p/t)
midday supervisors	5	3

HMI (GB. DES. HMI, 1992b; para 420) observe:

With the progressive introduction of LMS, opportunities will increase for heads and governors of primary schools to review the number and type of paid non-teaching staff they employ; there is every indication that more and better use of such staff could enhance the quality of the teachers' contribution to pupils' education.

The suggestion was that additional non-teaching assistance should free teachers to engage in specific curriculum related activities. This principle applies equally to both secondary and primary schools. Furthermore, the National Curriculum makes specific demands, particularly in respect to practical subjects. Coopers and Lybrand (1992) estimated that medium-sized (800 on roll) secondary schools would require two additional technician/resource assistants to cope with the demands of Key Stage 3 technology, science and information technology, coupled with the National Curriculum's encouragement of resource-based learning.

It was in order to explore the issues surrounding the comparative costs of educating pupils of different ages that a research project was undertaken at the NFER. The remainder of this chapter will outline the research and the schools which participated. The important additions that the study has brought to deliberation about comparative costs is first, information about activity-led staffing models in different LEAs, and second, information from head teachers and teachers about how they perceive primary-secondary resourcing differences. Throughout the report, a set of conclusions becomes increasingly apparent, namely that:

- historical differences between primary and secondary funding have become deeply established
- many practitioners accept even major discrepancies uncritically which reflects the quite different cultures and contexts which have developed for primary and secondary, and
- shifts in funding, whatever their intention, will not necessarily lead to the changes that policy-makers or other stakeholders, including the schools themselves, expect - unless specific attention is given to ensuring by additional means (especially by training and monitoring) that those intended changes will be enabled

The NFER research

The NFER research project on the Comparative Costs of Meeting the Educational Needs of Pupils of Different Ages ran from April 1993 to June 1994; it was sponsored

by the NFER's Membership Programme. It was complemented by another study at the Foundation, which examined the impact of LMS on schools' patterns of spending (Maychell, 1994).

The main aim of the Comparative Costs study was to report on the comparative resources and costs of primary and secondary schools, operating within the context of the National Curriculum. The sample of 419 primary schools taking part in the questionnaire survey comprised 101 schools containing Key Stage 1 pupils only, 144 schools containing Key Stage 2 pupils only and 174 schools containing both Key Stages (Table 1.1a). In all, therefore, there were 275 schools containing Key Stage 1 pupils and 318 schools containing Key Stage 2 pupils (Table 1.1b).

The sample of 307 secondary schools taking part in the survey comprised 177 11-16 schools and 123 11-18 schools (Table 1.1c).

Intake information

The schools taking part in the study were asked to provide information on their catchment area. Nearly two-fifths (39 per cent) of the primary schools and 35 per cent of the secondary schools described their catchment area as 'mainly country town and/or rural', just under a third (30 per cent) of the primary schools and a quarter of the secondary schools selected 'mainly suburban', and 29 per cent and 36 per cent, respectively, opted for 'mainly urban/inner city' (Table 1.2).

The chi-squared test was used to determine the statistical significance of any differences in catchment level between the two samples. The one per cent level of statistical significance has been accepted as evidence of difference between the two age groups. The differences between the primary and secondary school samples were not statistically significant.

The schools were also asked to indicate the numbers of students receiving free school meals, with a statement of special educational needs, needing English as a Second Language (ESL) support, or with other (non-statemented) special needs. Their responses, expressed as percentages of the number of pupils on the school roll, are shown in Tables 1.3a to 1.3d.

There were no statistically significant differences between the primary and secondary schools in terms of the percentage of pupils eligible for free school meals or of pupils with non-statemented special educational needs, although the large non-response rates should be noted. However, the secondary schools tended to have higher proportions than did the primary schools of pupils with statements of special educational needs and fewer pupils needing ESL support.

Representativeness of the whole sample

The responding schools were representative of the total sample and there was no significant difference between responding and non-responding schools as regards type of school, status or size. There was a very slight under-representation of schools in disadvantaged areas and from Wales and Outer London; and a slight over-representation of schools in Yorkshire and Humberside, and in the East Midlands.

The following chapter will describe the resource allocation methodology with which most LEAs identifying themselves as working on comparative costs were experimenting; this methodology is known as activity-led staffing.

CHAPTER TWO

ACTIVITY-LED STAFFING IN THE LEAS

The context

Over the past five years, a small number of LEAs have developed alternative methodologies for distributing the education budget among the schools for which they are responsible. These methodologies fall within the broad category of *activity-led* or *needs-based* funding. In this chapter the term activity-led funding will be used, although the terms are, generally, used interchangeably within available documentation. The broad aims of activity-led funding mechanisms are to identify the resources needed to deliver the curriculum and to construct objective models which can describe both the overall situation and the effect of adjustments.

Authorities have approached the task of constructing alternative models in a variety of ways. One LEA commissioned professional researchers to undertake the construction of a model, while another sought the advice of a team of management consultants. Mostly, however, reports have been produced by working groups of head teachers convened by LEA officers. These groups were often cross-phase, at least originally, although in two cases the primary and secondary phase representatives had not been in agreement and the secondary head teachers withdrew from discussions. In some cases, local head teachers' groups have taken the initiative of establishing a working group independently of LEA officers.

The common focus of these initiatives has been on staffing costs. This is unsurprising given that about 70 per cent of total LEA education expenditure is devoted to the salaries of teaching and education support staff.

Background to activity-led staffing

Activity-led staffing has evolved from the *curriculum-led* staffing models of the 1980s, which represented an attempt to allocate staffing on the basis of curricular needs rather than on the simple resource model of pupil-teacher ratios.

In the 1980s, the problem to be addressed was the maintenance of the curriculum in a time of reduced pupil numbers. First, it was realised that a decline in a school's overall numbers did not necessarily mean that fewer teachers were required; the relative decrease in the staffing of a school might restrict the curricular opportunities available to pupils. This problem had been recognised in the Public Expenditure White Paper of 1978 and the response of LEAs by way of curriculum-led staffing was later endorsed by the DES (1983) and the Audit Commission (1986). The small schools protection element now present in many LMS schemes was fundamental to curriculum-led staffing. Curriculum-led staffing sowed the seeds of looking at the particular needs of various age groups. Simpson (1987 p.3) commented:

When a PTR is stated for a school with a more or less uniform size for each year group, this average conceals that some year groups need more teachers' time than others. In secondary schools, in particular, the first three years normally have bigger than average teaching groups and are in effect 'subsidising' the fourth and fifth years and (if there is one) the sixth form.

When a school was contracting, there was no longer the opportunity for subsidy in this way.

The construction of an activity-led or needs-based model

Stage one

The initial stage in the construction of an activity-led staffing model is an analysis of what actually needs to be done in schools in order to manage and deliver the curriculum to the pupils on roll. As well as face-to-face teaching, activities taken into account include cover time and the non-contact time necessary in school for administration, planning and monitoring. Most models also recognise extra support to ensure curricular access for all pupils and thus, in effect, embrace allocations for social and/or non-statemented special educational needs, general classroom assistance and technician support.

There is little consistency among models as to which teacher activities are included and how they are categorised. In some cases, activity-led models actually include material resources and maintenance costs. Some examples of different typologies of activities can be found in Appendix 2a. Examples 1-11 are taken from documents arising from work within LEAs or individual working groups (such as local head teachers' associations); Example 12 gives the categorisation used for the Teachers' Workload Survey (STRB, 1994a). The very different categories make comparison difficult. As work develops, it is essential for there to be some agreement and consistency as regards what goes into this initial stage.

Most models restricted themselves to tasks undertaken in a teacher's 1265 hours of directed time as non-directed time cannot be so readily determined, teachers' Conditions of Service assuming extra time is spent as appropriate to prepare for activities in school. One model distinguished tasks that could normally only be done when the pupils were available in school (for example, assessment of practical work such as participation in a discussion) and tasks that had to be done in school but could be undertaken in the absence of pupils (for example, moderation meetings).

West and Pennell (1994) point out that another approach would be to recognise the work teachers carry out outside directed time, and to use a figure more in line with the hours of work undertaken by other white collar workers: 35 or 37.5 hours a week, say for 46 weeks a year. In 1994, the School Teachers' Review Body commissioned a survey by the Office of Manpower Economics to indicate the length and nature of teachers' and head teachers' working weeks. In the first survey, they demonstrated that classroom teachers in primary and secondary had a very similar length of average working week, at 48.8 hours and 48.9 hours respectively. Primary head teachers had an average 55.4 hours, and secondary an average 61.1 hours (STRB, 1994a).

Stage two

At the second stage, decisions are made about the broad professional framework within which the selected activities can be linked with resources. This framework attracts various terminology such as 'parameters' or 'assumptions'. It accommodates decisions about such issues as class size, the length of the school week, special educational needs support, technician assistance and non-contact time. In the models considered by the NFER, these decisions were made, variously, on the basis of evidence collected specially for statutory documents such as Education Acts, Circulars and Teachers' Conditions of Service; and professional documents such as HMI or research reports. Again, as Appendix 2b shows, the values put into the model were very varied. In some cases, a rationale was given; in others, it was hard to discern or seemed to rely on data gathered for other purposes.

Stage three

At the third stage, a formula is constructed to calculate the teaching time needed to realise the assumptions or parameters in the framework. Teaching time can then be converted to cash value for each school.

Stage four

When the formula has been applied to each school in an LEA, the financial implications can be discerned and investigated - for example, whether the adoption of a particular assumption/parameter leads to an increase in the overall staffing establishment of an individual school or the authority as a whole. LEAs can model the impact of policy options and demonstrate the effects of changing a particular assumption. This aids an evaluation as to whether it is, indeed, worthwhile to engage in a particular change. For example, very obviously, while a decrease in class size from 28 to 20 pupils would lead to a considerable increase in teaching costs across an authority, an increase in two hours foreign language assistant time in secondary schools would incur minimal proportional increase.

What the models cannot, of course, show, is the effect on actual practice, of contraction or expansion in a particular area. For example, is there a critical point for the reduction of class size or non-contact time? Would some arrangements have disproportionate effects according to school context (for example, on small/large schools, schools with various socio-economic features)? Research is needed here, both to inform which assumptions should first be tested in any established model, and to weigh the benefits, or disadvantages of any policy pursued.

As has been pointed out previously, a full statement about an authority's funding can only be derived from an examination of AWPUs and allocations outside the pupil-weighted element and outside the ASB. However, even partial findings about the effects of implementing activity-led models are interesting. Some examples of the outcomes of allocating budgets by activity-led models are given in Appendix 2c.

Applications of activity-led staffing

Activity-led staffing can be viewed as a technical tool for budget generation. Being based on the actual activities demanded to teach pupils, it readily accommodates changes resulting from, for example, new conditions of service or statutory demands on schools. It can also be used for forward planning; the effects of changing the 'input' of activities and/or values assumed, can be readily ascertained. It can make the practical implications of policy options transparent and raise questions about the relationship of an LEA's actual spending to that suggested by the SSA.

The determination of the parameters, or assumptions, applied to the tool is a professional issue. The means by which assumptions are arrived at may be various and include public opinion, HMI and research reports, actual practice within the LEA, and the advice of LEA advisers/inspectors. Moreover, the value assumptions have to be balanced against each other: for example, are smaller class sizes preferable to extra hours of special educational needs support? If the latter is preferred, then it will have implications by way of professional experience and knowledge.

Activity-led models may inform, but do not replace, LMS formulae. The resources have to be translated into formula funding allocations and distributed in lump sums and AWPUs. The methodology may be phased in. One or two parameters may be adopted (eg class size, non-contact time) at a time or several may be adopted incrementally (eg class sizes reduced in stages over several years)

It should be noted that activity-led staffing models are not intended as prescriptive profiles for staffing particular schools. As with present LMS formulae, once schools have their total budget, the deployment of it is at the discretion of the head teacher and governors (albeit working within statutory requirements), however the budget is constructed. The models can, however, indicate a norm based on the particular set of assumptions adopted by the LEA at any one time. The norm itself is intended to be a reasonable and realistic statement about the resources required to meet the needs of pupils and staff within a particular context.

In this context, it is worth noting that policy adopted by an Authority in changing the parameters of an activity-led staffing model, whether or not the change is undertaken after widespread consultation and negotiation, remains a hostage to a school's own wish to deliver that policy. For example, an Authority may determine to increase one-to-one tutoring in the early years and, through changes in their model, may alter the distribution of funds, only to find that local schools elect to use the money for a range of alternative purposes, such as to reduce class sizes overall. The effective implementation of activity-led staffing models, in the climate of Local Management, depends more than ever on shared LEA and school goals.

It is not only a difference in policy outlook which can frustrate the effective implementation of innovations based on activity-led staffing models; in translating intentions into practice, there may be crucial historical differences between schools which swamp the desired effect. The clearest example of this has occurred where teacher-led staffing models have been used for determining the basic budget allocation, whereas schools have a staffing establishment which could not readily be

changed. Taylor (1993) believed that, under LMS, 'whether schools are winners or losers depends upon the age profile of staff more than pupil numbers'. In his authority, there was a £4000 to £5000 range in average teacher costs for individual primary schools (which was equivalent to the movement of 20 per cent of pupils to or from a school).

This effect, noted by a single Authority, has been researched more widely. Levacic (1993) reported that schools with high unit costs, due to excess capacity or being relatively small, tended to lose budget in the initial implementation of LMS. Levacic noted: 'Above average costs contributed to budget losses in the primary sector but not in the secondary'. In the primary sector, in Levacic's comparisons between 1989/90 and 1990/91, transitional budgets in the primary sector ranged from -20 percent to +38 per cent (with all primary schools larger than 270 gaining); in secondary, the corresponding range was -10 to +19 per cent. The study also noted that socially disadvantaged primary schools benefited from the move to formula funding, whereas disadvantaged secondary schools did not.

Schools have only had discretion over the age, experience and expertise of their staff with regard to new appointments. The effect of many of the adopted LMS models has therefore been perverse. HMI (GB. DFE. HMI, 1992; para 33) found that among 63 schools in 21 LEAs surveyed over three years:

there has been a tendency to appoint younger staff than previously. Among other schools there are isolated examples of the appointment of a large number of probationers. One secondary school appointed nine simultaneously; a large primary school appointed four.

The implementation of any policy is in practice determined largely by the school's overall budget allocation in comparison to the previous year and the priorities established by the individual school (including withholding contingency money). A school may, for example, have first to address a shortage in particular curriculum areas by increasing the number of incentive allowances. Although purists may seek to move away from the constraints of historical funding, at a school level it often proves far harder.

It ought to be said that, at the time of this report, many of the LEAs which have developed an activity-led staffing model on which their LMS formula might be based have not adopted it as policy. Various local political concerns and the national economic climate have intervened where explorations have been made. However, Downes (1992) considers that 'major funding disparities will no longer be politically acceptable once the intermediary LEA has disappeared'.

Thus the means of allocation by activity-led staffing has yet to be put widely into practice in England and Wales. One LEA has used an activity-led model to determine staffing distributions for 1994-95. Kelly (1992) points to experience in Edmonton in Canada - a region that has inspired other aspects of LMS funding, especially in relation to resourcing support for special educational needs (Ainscow and Muncey, 1989). At the time of Kelly's article, age weightings in primary and secondary schools in Edmonton varied by only two per cent, though needs weightings for pupils with special educational needs were up to seven times the base unit. Most significantly,

additional resources were put into the system to bring the primary sector more into line with the secondary sector. This accords with the conclusion of Hardman and Levacic (GB. House of Commons, 1994b; Appendix 2, p.20) that:

It is evident that LEAs which have improved primary resourcing relative to secondary have mostly been those with a rising real ASB per pupil. This indicates that improvements in primary resourcing are unlikely to continue if LEAs are forced to reduce their ASB per pupil in real terms.

Summary and comments

This chapter has considered the way in which activity-led staffing models are constructed and the uses to which they can be put. The four main stages through which LEAs have constructed their models are outlined. The issue of perverse, and unintended, outcomes of activity-led approaches has been raised. The models further pose the question of whether distribution of resources by activities undertaken actually identifies need within schools of the same phase any more accurately than current methodologies, for contextual features are not taken fully into account and these may have a major effect on the time and resources that need to be allocated to particular activities.

It has been the Authorities' experience that, although there may be under-resourcing across both phases of education, the primary phase suffers disproportionately to the secondary phases. Appendix 2 gives examples of models which have been devised within LEAs. Appendix 3 lists those LEAs which had undertaken work on activity-led staffing at the time of the research.

The next five chapters of this report will present data, collected from the questionnaire returns and case study work, which reports practitioners' perspectives on resourcing issues and illustrates some of the dilemmas faced by practitioners as resources are allocated on a day-to-day basis, in different circumstances.

CHAPTER THREE

CLASS SIZE

Background

One of the 'selling points' within the independent sector is that pupils have the opportunity to learn better in small classes. Much of the research evidence on the impact of class size is inconclusive, although there is evidence that pupils disadvantaged by socio-economic circumstances may be helped by being taught in smaller classes (Mortimore and Blatchford, 1993) and that class size may be a more important issue in the early years (Blatchford and Mortimore, 1995).

The direct link between class size and improved standards or raised levels of achievement was refuted by the Secretary of State in 1991 (DES, 1991) and OFSTED's recent report (OFSTED, 1995) has mostly supported that position. Commentators stress the inutility of discussing class size without considering teaching styles, class management 'best fit' approaches and overall educational aims (Alexander *et al.*, 1992; Mortimore and Blatchford, 1993; Blatchford and Mortimore, 1995; Dewhurst, 1993).

The major experimental study to explore class size effects has been Project STAR (student-teacher achievement ratio) which followed 7000 pupils through four years and beyond of a programme involving 79 schools in Tennessee (see Finn and Achilles, 1990). Small classes (13-17), regular classes (22-25) and regular classes with full-time teacher aides were established.

The results were consistent: not only in reading and mathematics but in areas such as social studies and student attitudes, those in smaller classes performed significantly better; teacher aides made no difference. The results showed a special advantage for ethnic minorities. And the follow-up, the Lasting Benefits Study (Nye *et al.*, 1994) has found that the differences lasted, now four years after the original experiment.

Statistics about pupil-teacher ratios are published regularly by the DFE (eg GB. DFE, 1994b), and statistics about class size are usually made available in Social Trends (Central Statistical Office, 1994) and the *Educational Statistics Bulletin*. The recent pattern of class size increase has also been mapped by OFSTED (GB. DFE. OFSTED, 1995). The figures demonstrate that average class size has slowly risen in primary schools between 1980/81 and 1994/5 (provisional figures) while, in secondary schools, average class size fell slightly during the mid-eighties but rose again in the early nineties.

The increase in class size over the last twenty years does not simply reflect increasing pupil numbers. For example, there were 11.3 million pupils in maintained schools in 1977, which fell to 9.5 million in 1992/3. The recent trend has reverted to rising school numbers, however, and the recent trend towards larger classes in primary schools is especially marked: in January 1992, 1 million school children were in classes over 30 whereas in January 1993, 1.1 million - an increase of 10% (HMSO, 1994). According to a Commons written reply in October, 1995 (Education, 1995), the January 1994 figures showed a further 7.4% increase.

In international comparisons undertaken by Organisation for Economic Cooperation and Development (OECD) across fifteen countries, there was a substantial range of average class sizes in the primary sector, from Sweden which has a pupil-teacher ratio (PTR) of 11.1 to 1, to Turkey which has an average of 31.1 to 1. In 1988, the UK was the worst in primary PTR, save for Turkey and Ireland (CERI, 1992). At the same time, the UK was in the middle group for secondary PTR.

Class size is, of course, a critical issue in resourcing as, under LMS, every extra pupil represents a unit of resource; the more pupils who can be taught within one class without affecting overall effectiveness, the greater will be the efficiency of the system. All activity-led models address the issue of class size.

The schools' perspective on class size

The NFER questionnaire asked respondents about current class sizes and about their perceptions of the appropriateness of these in the light of curricular demands. The responses are given in Table 3.1. Class sizes in primary schools participating in the survey were in the high 20s; the overall mean for all age groups was 28. Class sizes in primary schools were larger than teaching groups for the core curriculum subjects of English and mathematics in secondary schools (science is a different case - as will be discussed below). Table 3.1 also shows that the means for English and mathematics teaching groups in secondary schools tend to get smaller as pupils progress up the school; as the case study data showed, however, class size within year groups differed considerably.

Primary head teachers were more likely to consider class sizes to be unacceptable than their secondary school colleagues. Nearly two thirds of the primary school head teachers considered that class sizes were unacceptable (one third were content with them). The responses of secondary school head teachers were less easy to interpret since only 80 per cent responded to the question; of these, the division between acceptability and unacceptability was equal (Table 3.2).

In both sectors, almost all the head teachers who indicated unacceptability gave their reasons for their judgement; these reasons were similar. Primary school heads said that classes were too large to meet the needs of: individual pupils in general; classes with a wide range of ability; pupils with learning difficulties; or mixed age classes. Others argued that large classes made it difficult to cover curriculum content adequately and to monitor and assess pupils' progress effectively. A few indicated that lack of floor space in the classroom was a problem with the number of children in

the class. Interestingly, lack of floor space was the most frequent problem mentioned by secondary heads (highlighted by about a third of those eligible to comment - 14 per cent of the total sample). Other secondary heads commented that class sizes were too large to cope with a wide range of ability and/or to meet individual needs.

Pupil-teacher ratios

The pupil-teacher ratios for the schools participating in the survey were 26:1 in primary and 16.5:1 in secondary. This compares with the national mean of 22.4:1 in primary schools and 16.2:1 in secondary schools (GB. DFE, 1994b)

Even when pupil-teacher ratios (PTRs) are taken into account, these data alone merely provide a framework. First, they do not show the use made of extra staffing where the PTR appears to be more favourable than class size, for example, and the case studies showed that the differential was used in various ways. Second, average class sizes do not take into account the broad subject differences. Third, even where a comparison of PTRs and class size shows that there is little spare capacity, it is not necessarily the case that class sizes are large without discrimination. The mere statistics do not reveal the intra-departmental or intra-school 'trade offs' that were found to be in operation in the case study schools.

Issues of class size specific to primary schools

Mixed age groups

In primary schools, opinion is often divided as to preference for vertically or horizontally grouped classes. The case study data showed that the realities of budgets and 'awkward' numbers in a year group (that is, insufficient numbers for the AWPUs concerned to 'buy' a full-time equivalent teacher and thus form another class) meant that classes had to be either very large, or of an uneven size through the school, or some (or all) had to cater for children of different ages.

Although a few schools in the survey had two or even three classes of mixed age groups, suggesting that such classes had been formed for positive reasons, mostly, where schools had mixed age classes, there was only one of each combination or year groups, suggesting that the grouping was for pragmatic reasons (see Table 3.3).

One questionnaire respondent wrote:

Reception, year 1 and year 2 are all in one room - all needs are compromised. Year R need play, which leads to noise; year 2 need quiet; year 1 would rather play too and can't concentrate.

To maintain relatively small [mid 20s] classes, children in some instances are vertically grouped. Difficulties arise when pupils of mixed ages in a class are engaged in different themes/projects, particularly in history/geography and science. When classes comprise a single age group, then [larger] size is acceptable.

The issue of mixed age groups was, of course, particularly acute in small primary schools. The head teacher of a school with 18 infant children and 34 junior children wrote: 'At present I have 34 children in Key Stage 2 in one class. This contains four different age groups and different ability levels'.

Intake points

A newly qualified teacher in one of the case study schools had a Year R/1 class of 34. She said that the fact that children came from different backgrounds - and some from nursery, while some arrive straight from home - made a class of this size difficult to teach. The same point was made elsewhere and attention was also drawn to the fact that the range of abilities was most diverse in the summer when the class was at its largest. In another case study school, staffing was increased (a 0.5 'floating' teacher became full-time) in the summer term in appreciation of the difficulties.

The research about 'summer born' children (Sharp *et al.*, 1994) must be salient to decisions about resourcing: in most classes, younger children do worse than older children, and the trend for summer born children to achieve less is discernible even through to GCSE level. Schools and teachers will find it harder to address the summer born effect in larger classes.

As their primary colleagues, the secondary survey respondents noted external pressures operating on class size. The head teacher of a rural comprehensive noted:

In my view, groups of greater than 25 are unreasonable for any National Curriculum subject in Key Stage 3 or 4, given the nature of the assessment and recording which teachers are expected to perform.

Negotiation about class size

Comments on the questionnaire and interview data showed the negotiations which took place at institutional level regarding class size.

Primary schools

'Spare capacity' was, in some cases, used to resource a 'floating' or 'unattached' teacher, but decisions were hard where it was an either/or situation, rather than an addition to existing staffing. A questionnaire respondent wrote:

To reduce overlarge class sizes, another teacher was employed but at real cost to the school of non-release time for school development and staff development. A deplorable state of affairs!

The head teacher of a rural infants school with a high proportion of children from service families, and thus a transient school population, wrote:

Money that would previously have allowed more non-contact time has been used to finance an extra class teacher. This was agreed with all the staff to avoid very high numbers in years 1 and 2 [class size ranged from 25-30].

In another school, staff decided that they preferred to keep a 0.5 extra teacher and forgo allowances until the budgetary situation improved.

Classroom assistants were sometimes used to reduce stress in large classes. The head of a large rural infants' school wrote: 'We can only cope with 30 at year R/1 because there are trained NNEB for three hours a day'. The issue of support within the classroom will be addressed in Chapter Five.

Secondary schools

In secondary schools, the comments were related to issues of specific subject teaching and the need for groups of different sizes to meet the greater range of learning needs. A number of respondents mentioned that class sizes were reduced in certain circumstances - for example, one large rural comprehensive put extra staffing into Key Stage 4 core subjects so mixed ability groups could be smaller than form/registration groups. Another school did similarly in order to encourage active pupil-centred learning particularly in science, music and PE.

The sort of negotiation possible with the greater numbers of teachers and pupils in a secondary school was noted by one respondent: 'Some groups have more than 30 pupils as a result of departmental requests to keep other groups small'.

In another case study secondary school, the science faculty year 9 teachers had traded off contact time for class size. Instead of six groups of 30 for three hours per week, there were eight groups of 23 for two and a half hours.

There is less time but we get through the same amount of work and the lessons are much less stressful. If you have more time with each pupil you can direct their work better - stretch the more able and support the less able. It is a bonus for the whole group because the less able don't disturb the others which they do if they have not got the attention they need and can't get on.

In some circumstances, there was no opportunity for negotiation:

Staffing levels have fallen during the last four years. This becomes critical in areas where there are only one or two subject specialists. To counterbalance this, teaching group sizes have had to be increased.

Space

Support from classroom assistants or additional teachers was not necessarily a solution to over-large classes. Space was a factor influencing class size in both primary and secondary schools. The relevant issues concerned actual size of classroom as well as the number of rooms overall and the layout/design of the school. Respondents showed how these factors affected the curriculum:

Primary schools

Class sizes are too large for the classroom area and the type of curriculum now required, despite a larger number of supporting adults.

The year 6 class size (32) makes it difficult to fit children into the classroom. Practical work is restricted.

There are no specialist areas in school - no physical accommodation for large equipment or storage facilities (old Victorian building). The hall is used for PE, lunches, assembly, teaching group. No library. No staffroom.

An interviewee in one of the case study primary schools commented that the atmosphere of the classroom was affected if children felt cramped and, for example, were jogged while they were doing something special.

Secondary schools

As in Key Stages 1 and 2, the problem of class size in Key Stages 3 and 4 was exacerbated by inadequate space. This was particularly true of workshop and practical subjects where accommodation was considered inadequate for large adolescent boys. In terms of the curriculum, restricted space limited the work produced. For example, there was often inadequate bench room for large technology projects.

Very high occupancy levels also posed a problem:

We can't decrease class size because there is no room even though there is plenty of money to pay staff.

The problem is one of space. We are a split-site school and the lower school (Key Stage 3) is filled to capacity. We have no surplus space to create more groups even if we increased staffing.

A secondary school English teacher observed that it seemed almost necessary to have some spare desks in the classroom to make pupils feel that they were not crammed together, and a English teacher colleague in another school remarked that there were activities which she could engage in with classes 'because I've got the largest room in the English suite'.

Learning in the classroom

Reference was made to the quality of learning in large classes. Some respondents considered that certain things were inevitable: if class sizes were too large, the needs of some pupils would not be met.

Comments about the demands of the National Curriculum and statutory requirements formed another group of concerns about class size. These comments were common across phases, relating to broad pedagogical issues:

With the amount of assessment needed to be done and the differentiation needed to deliver the curriculum properly, our class sizes [31] are just too big. Staff do the very best they can for all children and this leads to overwork and stress.

The problem of class size [29 in this school] is complex. The curriculum can be delivered but if class sizes increase, then the quality of preparation, lesson and follow-up is reduced. Time available for special needs and extension work for abler pupils is also adversely affected.

It's extremely difficult to deliver an effective well-differentiated and taught curriculum, and manage behaviour, and assess/keep records with 33/34:1. Quality contact is forced out.

Data suggest that acceptability of class size is inextricably linked to teaching style and it may be that it is this relationship, rather than class size *per se*, that is the critical factor.

Indeed, not all respondents or interviewees yearned for smaller classes. A primary teacher interviewed had a class of 29 who, she said, were 'gelling as a class' so that the number was 'quite acceptable'. Another junior class teacher in a case study school spoke of her experience of having had a class of only 13 in a previous job; rather than extolling the virtues of this situation, she said: 'but there were not enough to spark each other off, to enjoy'.

A deputy head in another case study primary school said that he would not like to see classes of fewer than 24. He thought that this was the optimal number for grouping children for the generation of ideas and language; below this number the teacher had to lead a lot and was 'like a clearinghouse'. He had previously taught in an LEA where most primary classes were over 36, and in poor accommodation. In his opinion it had been quite possible to teach effectively provided that the ethos of the school explicitly favoured particular patterns of behaviour: children were trained not to be noisy or untidy, everyone had to be very clear about day-to-day rules, and routines had to be established with clearcut expectations. However, he admitted that with smaller classes there could be more negotiations with pupils and the teacher could talk children through the mental organisation needed to execute a task, instead of merely establishing the groundrules for it.

Classroom management

The comments presented so far draw attention to the fact that size cannot be sensibly considered without an examination of what goes on in the classroom. A number of teachers interviewed had experience of a range of groups of different sizes and were able to reflect on their experiences. A Year 2 teacher in a rural primary school had 28 in her class but, at the same school the previous year, had only had 18. She said that she did more whole class teaching with the larger class whereas a greater degree of small group work was possible with smaller classes as there were, overall, fewer children to interrupt when the teacher was working with one group. When teaching the smaller class, she would engage different groups in different subjects at the same time; with her present class of 28, all groups did the same subject at the same time.

She considered that there was more detailed planning, more differentiation and more appropriate work in the present set-up. Thus it was her perception that the educational experience of the children was, in fact, superior in the larger class. However, it is

important to point out that, again, size was not necessarily the critical factor: she realised that she had developed professionally and that preparation for an OFSTED inspection had also prompted critical reflection and changes in practice.

An experienced infant school team leader commented on the way her class of Year R/1 pupils expanded during the year. She noted that the summer term was the longest term and that pupils should thus make the greatest progress in it. But this had not been the case and she wondered if it was because the class was at its largest then. The school had introduced a part-time floating teacher to work with all the Year 1 classes and the hours of this teacher were to be increased within the academic year as the class numbers rose. This was a strategic move by senior management. One of this interviewee's colleagues commented that practical activities were much harder with larger numbers and planning became even more critical: while one group of children were doing an investigation, another would be doing something more routine.

A newly qualified teacher interviewed had received a sharp introduction to different class sizes. She started with a Year R/1 class of 19 in September, but had an additional six children in January and another six at Easter. She grouped her pupils for 'focused time' (when she introduced particular new teaching points) by ability or previous experience. The more pupils there were in the class, the more that 'the work you give the other children to do while you're giving one group focused time, must be less teacher demanding'. She felt that it was not the focus group which suffered in a large class so much as the other children with whom the teacher was not working - their work had to be 'much more obvious'. The focused time was affected too though, in that there were more children to interrupt it.

Primary school 'carpet time' was also considered to be diluted the larger the class. It took longer and the children became inattentive sooner; some could 'drift along at the back and not join in if they don't want to' whereas this was less likely to happen with smaller overall numbers.

The head teacher of one of the case study primary schools was emphatic that mere statistics about class size gave little helpful information. 'Quality education' must be sought and class sizes needed to be amended according to particular roll profiles. He mentioned an occasion when, with a combined group of 46 pupils, one teacher was doing 'quality language work' with eight pupils while another was running a 'superb music lesson' with the other 38. He also cited the examples of two schools with which he was familiar. In one, a village primary school, there were two classes of 36 and 37 but it so happened that there were only four pupils with slight learning difficulties in the year group and that the two teachers were excellent practitioners. On account of this he considered the situation worked well.

In another school, overall numbers were similar but there were a number of pupils with learning and behavioural difficulties: in this school there were three classes of 25 pupils. A further factor was that one of the teachers was weak. Rather than use class size *per se* as a measure of effectiveness, as this head teacher's LEA was proposing to do, he thought that there should be consideration of quality assurance and mechanisms for ensuring value for money in context.

Issues of class size specific to secondary schools

Ability levels

Some discrete issues emerged from the comments of staff in secondary schools. Particularly in Key Stage 3 (and in Key Stage 4 core subjects), class sizes were generally affected by ability levels: numbers in the low ability groups were reduced, which meant that top ability groups were often over 30. In one of the case study schools, for example, the lowest mathematics set had 16 pupils plus a support teacher, while the top one had 30+ and no support. In another case study school, the comparable numbers were 15 plus support, and 36 in the top set. One of the problems of very large top sets was considered to be that it was difficult to move up pupils from lower sets. Large numbers were also thought to restrict high achieving pupils.

A justification for varying class size according to ability was that pupils of lesser ability would not come to consult the teacher on their own initiative if they had difficulties and would not put in any extra work, while top set pupils would do both. However, elsewhere it was pointed out that there was a wide spread of ability even within top sets.

Contact time

Another issue in secondary schools *vis-à-vis* class size was the amount of time in the timetable for a particular subject or course. One secondary school music teacher commented that classes of 30 for Key Stage 3 and 4 music were acceptable where resources, accommodation and contact time with each class were adequate. However, where, as in his present school, each class group in Key Stage 3 had only one 70 minute lesson per week, and both accommodation and resources were inadequate, a class of 30 was unmanageable: 'the idle and able lose out.'

Each music class in the school had to be split into two groups, with the teacher supervising those doing practical work while the second group, engaged in theoretical work, had to get on by themselves. Similar problems were identified by a food technology teacher interviewed in this school while, elsewhere, an English teacher said that the pressure of the National Curriculum operating on available contact time was such that 'it's really bad when you miss lessons for training days and work experience'. Shortage of time was, in some cases, solved by setting a substantial amount of homework but then that led to an increased marking load.

Another questionnaire return commented on specific parts of the curriculum:

Key stage 3 science: groups up to 30+ provide difficulties in AT1 demands upon apparatus and review time with pupils. Key stage 3 English: groups up to 30+ not suitable as the NC demands a lot of group activity work. Research, discussion and the presentation of facts in writing require time to be spent with different groups working at varying levels. Oral work is an essential part of the course and groups of 30 in the confined space available do not make discussion, debate and roleplay exercises easy.

Large maths class size [27] restricts AT1 activity on occasions and the level of support which is required for stretching the more able. Formative assessment is limited as is marking and feedback.

A deputy head interviewed commented on the interaction between curriculum content (pre-Dearing), class size and contact time. Teaching styles were, he considered, affected by class size. With larger classes teacher tended to adopt a more didactic approach, although here he noted that the science faculty in his school did not. It was much quicker to tell pupils a theory in five minutes though they could investigate it themselves in an experiment taking the whole of a 70 minute lesson. When time was at a premium and classes large, the first option was more attractive. Along the same lines, two questionnaire respondents wrote:

Too much content to get through in too short a time with large groups.
Restricts the type of lesson/teaching styles.

During the introduction of the National Curriculum, the LEA changed the PTR from 15.1 to 18.1. This led to reduction in staffing and, consequently, a rise in the size of teaching groups. In particular, this has affected subjects which are activity, but not workshop, based. This has limited the type of work it is possible to carry out.

Arguably, the larger the mixed ability class, the greater the need for differentiation, especially at Key Stages 3 and 4 when the range of achievement is far wider than that at Key Stages 1 and 2. However, large class size was considered to militate against differentiation - certainly differentiation by input - on account of teacher workload. A science teacher interviewed remarked that science classes of 20 would give the opportunity for a more practically based approach, more individual work and development at the pace of the individual. With a large class he could only differentiate by outcome.

A young English teacher, in the second year of teaching, commented that 'if there were fewer pupils we could differentiate the work more'. The only way he felt that he could cope at present - with classes in the 30s - was 'to ensure that they're all on the same piece of work'.

The disadvantages of large classes were perceived by one teacher as the inability to talk to children individually or to discuss anything of any length with the class, combined with the difficulty of small group work on account of the lack of space.

A head of science commented:

So class size affects the overall activities you can do as there is also the safety aspect in science. The more pupils you have in a class, the more there are waiting around for attention - and most school lab accidents happen in this way. The alternatives are to ask 'what can I safely do?', or to do activities you feel insecure about - which raises the stress level.

Curriculum options

Size of year 10 and 11 classes were dictated not so much by the teaching that staff wanted to go on in them - that is, by the demands of the Key Stage 4 curriculum - as by the necessity to offer as wide a range of options as possible in order to provide for as many interests as possible. The range of GCSE and, indeed, sixth form, options was perceived to be a factor which encouraged parents to choose a particular school. Those secondary schools with sixth forms were aware that the absence of a particular subject at A level could cause the loss of a pupil to another school; in some cases, parents might be attracted to a competitor school for their child from year 7.

Summary and conclusions

This chapter has presented evidence about the importance of class size and has considered practitioners' perceptions of the effects of large classes on classroom activity and educational experiences. Larger classes clearly were perceived to create greater teaching and managerial challenges. In most schools these were acknowledged and solutions, or adaptations, were negotiated. Elsewhere, however, it was considered that the curriculum on offer was simply diminished.

Unsurprisingly, the evidence from practitioners generally supported a decrease in all class sizes but there was no evidence suggesting major overall primary/secondary school distinctions. Primary head teachers found the existing situation more unacceptable; secondary schools wanted to offer a wide range of options at Key Stage 4 which usually entailed smaller groups. The growing number of secondary schools offering further alternatives, such as GNVQs, may add another dimension to the class size issue.

There is an additional argument to be considered over the costs of class size reductions. Slavin (1989), for example, accepted that research had increasingly demonstrated that smaller classes make a difference but argued that the size of the difference was moderate (an effect size of only about 0.13 across eight studies, including Project STAR) and that class size reductions, compared with other initiatives (one-to-one tutoring, peer tutoring or cooperative learning), were expensive. Robinson (1990) found peer tutoring about four times as effective in raising mathematics achievement, for an input of \$100, as class size reduction from 35 to 20.

On the other side, there is the matter of professional and public confidence in small classes. There is a considerable body of opinion against allowing class sizes to rise further, especially in primary schools. It is the fact of this pressure to reduce class size especially in the primary school, together with the high proportion of staffing costs in the overall school budget, which creates the greatest challenge to the existing balance of primary/secondary funding.

It is not clear that the professional and practical issues raised by practitioners have been directly addressed by activity-led models. This is, to a certain extent, unsurprising for, as pointed out earlier, the realisation of models is currently restricted by financial stringency. Additionally, the status quo is to a large degree preserved by

the fact that the issues that teachers raise (for example, about differentiation) are broadly similar across key stages and indicate a broad professional consensus.

The next chapter will look at further staffing issues and, especially, at promoted posts and non-contact time.

CHAPTER FOUR

ESTABLISHMENT AND NON-CONTACT TIME

Background

The centrality of teaching costs in any discussion of schools' funding should be clear. The following figures (Figures 2 and 3), based on government figures (GB. DFE, 1995) confirm that about 69 per cent of primary expenditure and 71 per cent of

Figure 2 Distribution of expenditure in LEA maintained nursery/primary schools, 1993/94 (provisional)

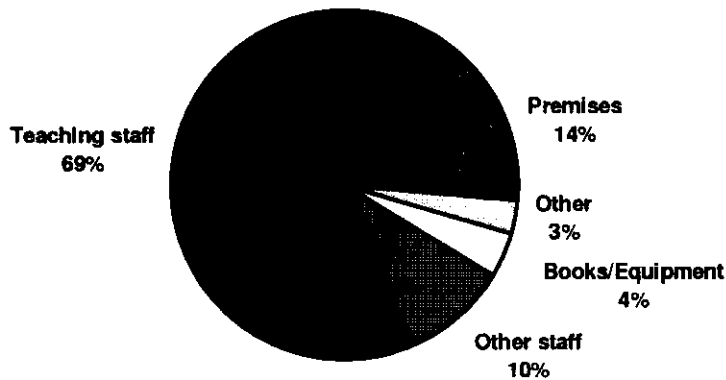
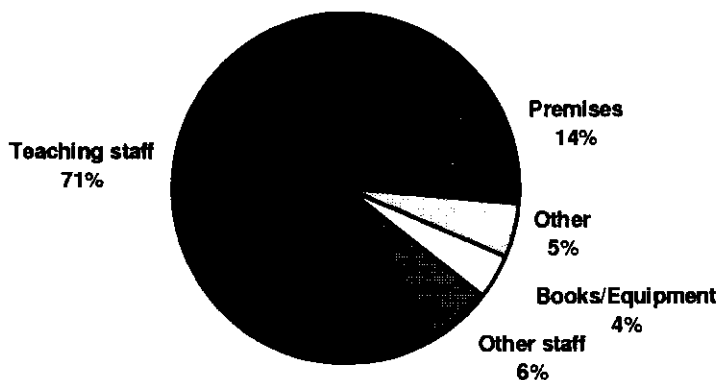


Figure 3 Distribution of expenditure in LEA maintained secondary schools, 1993/94 (provisional)



secondary expenditure is concerned with teaching staff costs. The labour intensity of schooling is further underlined when it is noted that a further ten per cent of primary funding and a further six per cent of secondary is devoted to other staff costs.

Staffing establishment: promoted posts in the NFER study

The numbers of different types of promoted posts in primary and secondary schools are shown in Tables 4.1a and 4.1b.

Not unexpectedly, in view of their size, the number of promoted posts of all types was higher in secondary schools than in primary schools. Thus, in order to see whether or not the differences were solely a function of size of school, the following ratios were calculated for schools in both phases:

- Number of pupils per deputy head
- Number of pupils per promoted post
- Number of pupils per promoted post - weighted sum of promoted posts

The weighted sum of promoted posts was calculated as follows:

<i>scale</i>	<i>weight given</i>
A	1
B	2
C	3
D	4
E	5
Deputy head	6

The results of these comparisons are shown in Table 4.2. The mean number of pupils per promoted post (unweighted) in primary schools was 56, compared with 33 in secondary schools. When the comparison was made in terms of weighted promoted posts, the mean number of primary school pupils per weighted promoted post was 23, compared with 11 in secondary schools. The comparisons illustrate the higher proportion of promoted posts in secondary schools as compared with primary schools.

The obvious financial implications of this are that promoted posts carry increments. The question remains as to which activities have to be undertaken, when, in relation to promoted posts, and whether there is a greater degree of responsibility per pupil in secondary schools than in primary schools. Data from the case studies, specifically on management structures and also on management activities, are pertinent here.

In the questionnaire, head teachers were asked whether their schools had made changes in the numbers of promoted and mainscale posts since the National Curriculum began to be implemented; they were asked to give reasons for their responses.

Secondary schools were more likely than primary schools to have increased the number of promoted posts since the introduction of the National Curriculum. Nearly half of the secondary heads indicated an increase, compared with about a third of those in primary schools; this, clearly, added to their costs.

Most head teachers in both sectors gave reasons for their response. Some of the reasons given by secondary heads were connected with teacher activity: for example,

increases in the number of pupils on roll and an increase in the promoted post allocation because of new school grouping. Those related to what secondary schools actually do included: extra responsibilities, changes in management structure; and the need to provide for a greater degree of curriculum support. The primary school heads stressed: the need to reach department guidelines or statutory requirements; changes in management structure; and the need to provide curriculum support.

About a quarter of the secondary schools and a tenth of the primary schools indicated that there had been decreases in the number of promoted posts. The main reasons given were insufficient funding and falling rolls.

Staffing establishment: mainscale posts

Secondary schools were also more likely to report increases in the number of mainscale posts (about 44 per cent compared with about a third of primary schools). The main reason given by secondary heads for increases was additional numbers on roll (mentioned by over half of those reporting increases). This is, thus, not a curriculum factor related to differential phase costs. The main reasons given by primary heads were: increases in pupil numbers (mentioned by two-fifths of those reporting increases); additional support for pupils with special educational needs; and increases in the non-teaching support in the school.

About a quarter of secondary schools, compared with a fifth of primary schools, reported decreases in numbers of mainscale posts. In both phases, the main reasons given were insufficient funding and falling rolls.

Head teachers were asked whether or not their present staffing complement was adequate for the delivery of the National Curriculum. Primary school head teachers were less likely to be satisfied: nearly two thirds of them, compared with half of those in the secondary sector, believed that their staffing complement was inadequate. The difference between the two sectors was statistically significant.

The main areas of inadequacy indicated by primary heads were, in order of frequency: specialist teaching, special educational needs support, non-contact time, class size and technology/IT. Secondary heads gave greater prominence to specific subjects areas. In order of frequency, these were: technology/IT, languages and core subjects. Secondary heads were also slightly more likely to indicate that they had inadequate staffing levels in all curriculum areas.

Perceptions of the adequacy of classroom assistance, technician support and other non-teaching assistance will be reported in Chapter Five.

Case study data

Several of the head teachers of the schools involved in the case study work were reviewing their school's management structure in the light of changing responsibilities flowing from the National Curriculum and, to a certain extent, LMS. These changes were affecting both primary and secondary schools.

The head teacher of one of the case study secondary schools had reduced what he considered to be the top heavy management costs imposed by the structure he inherited when he took up post. There had been nine senior staff but he had reduced this to seven and said that he would be quite happy with five. He wanted a collegiate model of responsibility and decision-making, rather than a top-down hierarchy. Thus he created new C and D allowance posts and a head of the lower school. Heads of house were reduced from D to C allowances as new appointees filled vacated posts.

In a case study primary school, a similar strategy had been employed. During the term when the deputy head was away on study leave, the head teacher had reorganised the structure to make it 'flatter' (two C posts - for special educational needs and pastoral care - and 5 B's for curriculum co-ordination). He was concerned to set a policy of appointments where clear job descriptions were linked to a point on the pay scale; this should provide opportunities both for 'new blood and fresh ideas' and also for existing staff to 'grow' into additional responsibilities. The head pointed out that staffing structures had to change as tasks changed. The two examples suggest that the structure of promoted posts in both primary and secondary schools can be related to management style - which can be common across phases - rather than any inter-phase difference in terms of curriculum delivery.

Non-contact time

The issue of non-contact time is one of the most contentious in the debate about resourcing. The official differential between primary and secondary non-contact time is marked and there have been arguments that it should be reduced.

Non-contact time: questionnaire data

The NFER survey asked about the present amount of non-contact time in the respondents' schools, the perceived adequacy of this and what was considered to be a reasonable amount. Reasons were requested so that the use of non-contact time could be explored. The case study work further investigated usage.

Table 4.3 shows the non-contact time allocations for the schools participating in the NFER survey. It should be pointed out that non-contact time was calculated as a percentage of the teaching week, which is longer in secondary than in primary schools. When non-contact time is related to 1265 hours - as in one of the LEA resourcing models received by the NFER (see Appendix 2c) - the differential was not as sharp.

Over 80 per cent of the primary school heads who returned a questionnaire to the NFER commented on changes in non-contact time since the implementation of the National Curriculum began. Their comments indicated that up to 35 per cent of schools had allocated more non-contact time to teaching staff, usually to deputy heads and/or subject co-ordinators. Less than ten per cent of schools had decreased non-contact time and just under a quarter of schools had made no changes. In just over

one in ten primary schools staff had no non-contact time, while in the same proportion, all staff had some non-contact time.

The reasons given for changes in non-contact time in primary schools were fairly diverse and were reflected, and elaborated upon, in the case study data which are reported below. The main messages seemed to be that non-contact time was often allocated on an ad hoc basis for a specific purpose, and that ways of freeing teachers for non-contact time included cover by the head or deputy, the use of a 'floating' teacher, or doubling up classes. Several head teachers mentioned that curriculum co-ordinators and special educational needs co-ordinators had been given more non-contact time with respect to their increased responsibilities. In some schools, cuts in non-contact time had been made because of an inadequate budget or to pay for extra administrative help.

An issue with resource implications which had an effect solely on the secondary sector was the provision of a wide range of options in Key Stage 4 and, more particularly, in the sixth form. In the case study schools with sixth forms, senior staff were concerned to offer a broad range of curricula, as they considered that this was a 'selling point' for parents and actually attracted more pupils - and thus more money to the schools - at the beginning of Key Stage 3 (or entry year). The very wide range of options, often resulting in small pupil groups, was also evident from the questionnaire returns. As pointed out earlier, the existence of these small teaching groups makes overall pupil-teacher ratios appear much more favourable in secondary schools than in primary schools; data suggest that pupil groups for the core subjects may not be as favourable (see Table 3.1)

Almost two-thirds of secondary school heads commented on changes in non-contact time. About a quarter of all respondents said that there was generally less non-contact time, and a quarter that there had been no change. Up to 15 per cent said that there had been increases in non-contact time but few mentioned the specific posts which benefited.

The main reasons for changes in non-contact time in secondary schools was to provide for extra administrative duties concerned with management and the National Curriculum. In some schools, non-contact time had been reduced because of pressure on the budget or staff cuts.

Head teachers were asked to indicate whether or not the present allocation of non-contact time in their schools was adequate for the effective delivery of the curriculum. Primary heads were more likely than secondary heads to consider their allocations to be inadequate (85 per cent compared with 56 per cent). Head teachers who had indicated dissatisfaction with their present allocation were invited to comment on areas of inadequacy. Almost all commented, most giving several examples.

Coordinators, allowance holders and deputy heads in primary schools were thought to need more non-contact time, although nearly a quarter of primary heads indicated that non-contact time allocations in their schools were inadequate for all the teaching staff. The main tasks identified as requiring additional non-contact time were: assessment,

monitoring and record-keeping, preparation, marking, feedback and background reading.

Secondary school head teachers who were critical of non-contact time allocations in their school were less likely to single out any particular type of post. In their view, all teaching staff would benefit from more non-contact time.

Primary head teachers said that they had insufficient resources to increase non-contact time and that co-ordinators were unable to fulfil their role adequately because of lack of time. Secondary heads, however, stressed the extra workloads for heads of departments (equivalent, in effect, to primary subject coordinators) and the increased volume of administrative tasks - they were less likely to complain of inadequate financial resources.

Head teachers were asked to indicate the amount of additional time required for a particular post or type of task identified. In most cases, their responses were quite modest - one or two hours per week for each post or task identified. This again raises the question as to the 'critical' amount of time which can have an impact on effectiveness. It might be that a small extra allocation would have significant benefits which greatly outweighed the financial input.

Limitations of these data

The statistics are not clear cut. First, at the time of the questionnaire, in both primary and secondary schools, amounts represented the maximum available on a regular basis. In all the case study schools, non-contact time was dependent on the full staffing complement being present in school. In secondary schools, staff normally lost up to half their nominal amount each week - or within each timetable period where fortnightly timetables were in operation. A proportion of secondary school non-contact time can, thus, be conceived more in terms of supply/cover budget than in terms of guaranteed time for teachers to carry out non-classroom based tasks. That is, cover was considered as part of regular obligations so that recourse to supply teachers did not have to be made so often.

Clearly, secondary schools have more favourable staffing ratios which allow this and they differ from primary schools in this respect. But if the interest is on what teachers do with their time and the activities which are facilitated by more generous overall staffing, then the situation is more complex. It is not true to say that greater non-contact time *necessarily* gives more time for curriculum planning and liaison; it may be consumed by way of the, essentially, non-productive task of cover.

The head of a large inner-city comprehensive school wrote: 'Non-contact time is misleading because it's frequently taken for cover. This despite supply budgets which soon run out.'

It was this erosion of the full entitlement that caused dissatisfaction with the amount actually available: 'Non-contact is adequate [MPG = 18 per cent] for teachers' tasks but ... inadequate for the efficient running of the school when absences, INSET etc occurs.'

There were further erosions. For example, a teacher in one of the case study secondary schools observed that though staff would only be required to cover for half of any one sixty-minute period, by the time that they had done their cover and returned to the staff room, only about 20 minutes might be available for work. Senior staff such as heads of faculty and year often lost out on account of being 'on call' for disciplinary support: this was unpredictable and, when called, often time-consuming.

Negotiation took place. Several secondary schools had systems whereby staff knew that they were on 'red alert' or high priority for cover for certain periods but would only be used in an emergency at other times. Other systems gave very overstretched staff protected non-contact:

There is difficulty in small departments, such as modern foreign languages, where in order to meet the curriculum requirements, the three staff have only ten per cent non-contact [elsewhere in the school it was 16 per cent] but are not used to cover for absent colleagues except in real emergencies.

In other cases, there was internal bargaining: a teacher could say, for example: 'I'll cover today if you'll keep next Monday free'.

The second point that needs to be made about 'official' non-contact figures is that additional time could be bought in on an irregular basis for a specific task so use of the INSET budget is salient. It was pointed out earlier that the use of regular teachers for cover reduced the demands on the supply budget; here the reverse is in process, with the supply budget being used to support specific teacher activity rather than just in the event of illness. Again, negotiation was used to maximise resources; a secondary teacher spoke of the economy of 'joining up frees' in order to gain a block of non-contact time for work on curriculum materials. This could be done at departmental level. For example, a head of science interviewed spoke of how he was able to take all ten departmental staff away for a development day - by choosing the right day, when his staff had light timetables, he only had to buy in four supply teachers to cover.

Thirdly, non-contact allocations, and perceptions of them, have to be related to the particular task within a particular context. There were those, for example, who considered that present allocations were adequate. A head of humanities was satisfied with his eight hours per fortnightly timetable, with the proviso that it was adequate only 'if one is well organised'; and another head of mathematics said simply that he really enjoyed teaching and did not want any more non-contact time. This contrasted with another secondary school head of department who had told senior management that he did not want any more pay but he did want more time. It was, perhaps, not insignificant that a newly qualified teacher in this department was applying for a new job at another school: the deputy head thought that this might be because the teacher was receiving so little support on account of the head of department's lack of time. Here again, there is evidence of the tangential effects of non-contact time allocations.

In one of the case study secondary schools, non-teaching support had been expanded and provision made in areas such as English, art, music and humanities, where traditionally there had been no support. The head made the point that 'teachers can

then plan their photocopying, repairs and so forth and concentrate on managing the subject and teaching'. He considered that this arrangement 'would represent a culture change' as teachers had always said, 'I'll do it because there is no one else to'. But the enhancement of assistance freed teachers' non-contact time of mundane tasks and this had an impact on the total amount that they actually needed.

The comments cited underline the fact that it is not non-contact time *per se* in either the primary or secondary phase that is the issue but the *use* of it. And differences in usage may lie in a broad cross-phase continuum rather than being related to phase. Time available and usage have a close relationship with professional development, for if staff do not use the time effectively then it is, clearly, of dubious value. The head of department cited above, who loved teaching, could, for example, have used his non-contact time to go into colleagues' classrooms to work with them and to offer support: he could still have the pupil contact which he enjoyed. The second head of department, who wanted more time, may well have been aware of what was needed to be done but simply not have had the time to do it. This was a recurrent theme in both phases. As a respondent to the primary questionnaire wrote: 'We know what to do; we don't have the time to address the learning of children as effectively as we know we can.'

This had effects in terms of staff morale and stress (which, in turn, was widely mentioned as having resource implications):

Sickness, not normally great in this staff, has often eliminated non-contact time for some staff for weeks on end. Non-contact is purely nominal these days.

Many teachers are feeling very burdened and inadequate. 'Caring' teachers worry that they can't run fast enough to satisfy the requirements made of them.

There has been no intentional change in non-contact allocations but there has been a reduction as a consequence of the increased workload of the National Curriculum, government regulations, and the need for many more meetings which have to take place out of school hours. The resulting increase in workload has caused an increase in stress, resulting in an increase in staff absence, resulting in the remaining staff losing more of their non-contact time to cover for absent colleagues.

There were many comments showing that respondents were keenly aware of 'sins of omission':

We manage, and because we manage it is considered adequate and successful. The argument that we could be more effective, tackle things more deeply and with greater purpose with better staffing is not a gripe - it is sincerely believed and evidentially true.

The time required at all levels for developmental work, assessment, record-keeping, records of achievement is increasing. No non-contact time can be provided for it. Some is needed - in the short-term to get developments in place; in the long-term for requirements which take place each year. If

additional non-contact time is not provided, work which must be done in school with the child detracts from teaching time.

When asked how they used non-contact time, very rarely did teachers in either phase say that they did marking; rather, all grades of teacher enumerated administrative, coordination, pastoral and interpersonal activities. For example, one secondary teacher said that she told sixth formers when her free periods were and where she would be so that they could contact her: 'You don't often get just time to sit down and do something of your own in those free periods .. anything that's lengthy, I'll do at home'. A head of technology spent one hour of non-contact each week with different members of the faculty. She also said:

If you've got to do some creative thinking or writing, which is a lot of my job at the moment - creating all the policies in the school handbook for the OFSTED inspection, all the new work we are going to teach as a faculty - you need creative thinking time when you're not disturbed. At the moment, that nearly always happens at weekends. School is just used for recording the marks of things I've already marked at home when I'm not disturbed, or putting notes into registers, or filing bits and pieces. I can't use it as any decent work time. Also, I haven't anywhere to work. That's a major handicap for me.

This head of department did not have an office and had to share the home economics room with the other staff; all the files and resources were stored in the classrooms and thus not very accessible. This illustrated the cumulative effect of resourcing *in context*. Other variables (here, poor accommodation) *can* cancel out what in other circumstances might be positive features (here, non-contact time).

A pastoral middle manager offered the following list of tasks to be done in non-contact time:

- pastoral welfare of years 7-9 (approximately 580 pupils)
- monitoring pupils' progress
- parental contact
- induction of new pupils (hour tour per pupil and parents) and visits to any of 24 feeder primary schools
- medical and social problems
- teacher liaison
- administration and filing

He said that:

At some times, it might be quiet, but it's amazing how many things [there are to do] even in a quiet spell. You've got admin to complete and catch up on, filing to do, teachers to see to get reports from. There is always something to do. Being a PE teacher, I always found in my free period that I could have a chat over a cup of coffee. Now I can't afford to stay over there. I can't afford the time to stay there because otherwise you just get too far behind. You are continually dealing with pupils ... I think within the job, it's very difficult, contact time. It's a job you can't prepare for as such ... If a problem arises, you've got to deal with it there and then. You don't know when it's going to come up. That is a problem if I am teaching a lot of periods one day.

Another secondary school colleague said that non-contact time needed to be increased in order to take part fully in: production of quality materials for classroom use; development of flexible learning materials; action planning with pupils; appraisal; and mentoring of students. There is nothing specific to secondary in this list. Records of Achievement are, increasingly, used at primary level. However, there were phase differences.

Heads of science seemed particularly hard pressed, as they had to ensure that necessary maintenance was carried out. For example, one spoke of the time involved seeking the statutory three quotations for maintenance contracts for laboratory equipment, such as the fume cupboard. He reckoned that he spent about three to four hours a week on routine maintenance matters. However, the week before he was interviewed, he had spent ten hours on maintenance as there had been a crisis with the water supply. He had delegated responsibility for much of the routine maintenance to the senior technician, but this meant that she then had less time for preparation for class work. This head of science also spoke of administration time spent monitoring established policies and procedures for health and safety.

In both phases, tasks to be executed in non-contact time were related to class size: larger classes generated more record-keeping and assessment. Very often, there was a cumulative effect: a questionnaire respondent wrote, 'Reduced budget has been met by increased teaching loads for all staff - also increased use of staff for cover. Increased pressure means less preparation, less quality teaching time'.

As with the issue of optimal class size, concern was voiced about how what was going on in the classroom affected non-contact time. A head teacher of a small inner-city comprehensive wrote: 'Reductions in non-contact because of differentiation, SEN and ESL support, deteriorating behaviour, and the need to keep groups as small as possible'.

In some cases, the head teacher and senior staff were having to assume a higher degree of teaching commitments in order to relieve some of the pressure on staff:

This year, additional teaching groups required for the National Curriculum have coincided with financial squeeze. The head teacher and deputies and some senior staff have taken on additional teaching rather than increase already high class contact ratio.

In another secondary school it was reported that 'the deputy head has insufficient time to get into lessons, and to become involved in discussions with faculties over methodology, developments etc.'

In one of the case study primary schools, a previously non-teaching head teacher, who had been able to provide cover, was going to have to teach a 40 to 60 per cent timetable. She was concerned that this would reduce her availability to parents; the school had earned a reputation for being caring and parents tended to turn up for counselling and advice. She was trying to block half days teaching so that parents and visitors could at least see her for some of the day even if she were otherwise unavailable. In this same school, the deputy head had only one afternoon release for SEN monitoring in class (the LEA had an audit procedure and the deputy saw all

pupils with statements and the six pupils at stage one), years 5 and 6 curriculum administration, and for administrative matters such as space and personnel allocation. He was only able to work with the head teacher at five o'clock on Fridays - 'not the best time to be clear-headed'.

A secondary school respondent wrote: 'If their non-contact time was increased to 25 per cent, the deputies would spend less time firefighting and more on their stated role as curriculum managers'.

However, there were intimations that non-contact time might be used by default and, were resources allocated elsewhere, could be freed:

Non-contact is under greater pressure ... but I also feel that more time could be saved with centrally produced teaching materials of high quality. There are still too many individual teachers producing low grade materials with poor productive value. We need the resources to buy in more top quality, professionally produced books, work units and so forth.

Another questionnaire respondent commented: 'All subject departments write their own materials because they can't afford texts.' Clearly, there is a 'saving' in home generated material - and in some cases there may be distinct curricular advantages - but there are also opportunity costs in doing this, rather than something else, in non-contact time.

Summary and conclusions

This chapter has examined the way in which head teachers and practitioners in primary and secondary schools perceived non-contact time. There was widespread recognition that the National Curriculum needs a considerable degree of coordination if it is to be delivered effectively; a number of respondents spoke of the considerable staff development benefits in teacher collaboration when there was time to work together. Primary head teachers were less likely to be content with current establishment and non-contact arrangements.

But there was a degree of consensus that non-contact time was not merely an 'entitlement' regardless of tasks to be done. Its use was considered to be most effective where it was related to the institutional, team or departmental development plan and where it was a planned part of preparing curriculum delivery. Its use, rather than merely its existence on paper, appeared to be the critical factor - contextual features can determine how much is necessary in a particular school. It is suggested that further work needs to be done on effective and efficient use of non-contact time. There was no cogent evidence that the issues in primary school were substantively different from those in secondary schools. Rather, there was a broad professional consensus regarding the conditions facilitating effective teaching.

CHAPTER FIVE

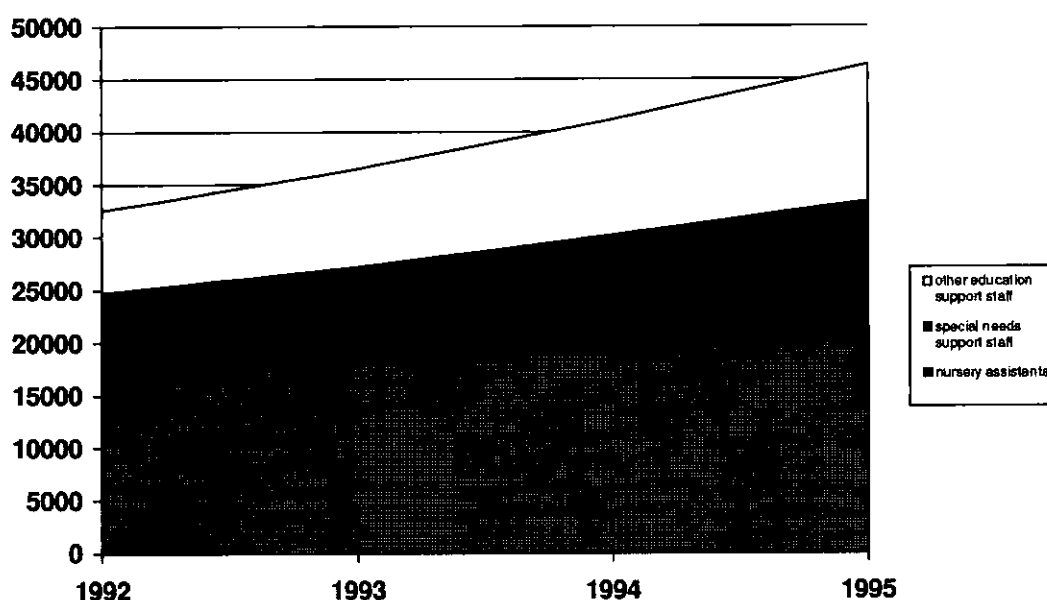
CURRICULUM COORDINATION AND CLASSROOM SUPPORT

This chapter will examine two important factors which affect the provision of professional support within the classroom: the role of the curriculum coordinator or head of department, and the provision of extra classroom support.

National trends

There have been two notable trends in primary schools since the adoption of the National Curriculum: the first has been the increasing importance of the curriculum coordinator, and the second the increase in non-teaching assistance. Recent OFSTED data (OFSTED, 1995) indicate the following rises over the last four years:

Figure 4 Trends in employment of classroom and other support in schools in England



Curriculum coordination

Teachers in both phases confirmed that curriculum coordinators were a very important focus for teachers' support. In the activity-led staffing models, time was rarely allowed for curriculum coordination, although it was for the general heading of staff development. Coordination is necessary to deliver the curriculum, certainly, but it can primarily be conceived of as peer support and assistance with curriculum development and teaching knowledge or expertise.

The National Curriculum has acted as a catalyst in developing the notion of team meetings and curriculum leadership in primary schools. Middle management training in secondary schools has a longer history.

Curriculum coordination in primary schools

A range of awareness of the role of the curriculum coordinator was found across the case study schools. In some cases, a shortage of non-contact time impeded development but there was also a measure of uncertainty about what coordinators should do, and how. For example, one Key Stage 2 English coordinator said that she had discussed a specific problem with a colleague out of class but had not gone into classes; thus she found it difficult to know what was going on in her subject area and how different members of staff taught it. At another case study primary school, a science coordinator estimated that she spent about five to six hours on coordination over the year. Teachers simply got on with the curriculum she had planned and it was up to them what to do. At a third school, the coordinator for early years and language estimated that she already spent four hours per week on her role but wanted to expand it further to include more monitoring and direct support of colleagues. Yet at the same school the science coordinator spoke of the unsystematic nature of her work and seemed unclear as to what to do - she cited various peripheral tasks as being part of her role.

Clearly, when time allocations are planned, notionally by the LEA or actually by head teachers, there is a need to ensure that they reflect actual, clear responsibilities; otherwise, activity-led models do not progress beyond a theoretical status. Time allocation alone will not turn to advantage unless there are clear expectations of those who benefit from them and adequate training has been given.

One of the case study primary schools was notable for its clear direction and staff collaboration and planning, flowing, it would seem, from the able leadership of the head teacher who had himself facilitated the development of leadership qualities in senior members of staff. All the teachers interviewed in this school spoke of the value of formal team meetings, which averaged from two to two-and-a-half hours a week, plus informal exchanges at break and lunchtimes. One experienced teacher spoke of the fact that one of her team members was on a course that term so it was hard to get everyone together - sometimes they had to meet after another meeting. She considered that the team was not gelling that term and she attributed this to the difficulty over meeting.

They had drawn up group plans but these were being interpreted individually as regards the detailed planning. Teachers were all going their own way. She commented: 'Without contact with colleagues there is none of the sparking off which makes the work interesting'. She added that in-depth meetings, generating critical reflection, were preferable to off-the-cuff conversations. This teacher's observations about the realisation of policy were reiterated by her colleague, the mathematics coordinator, who remarked that it was one thing to have things down on paper - ie, *what* was being taught - but it was more important *how* it was being taught. The latter needed non-contact time to work alongside colleagues in the classroom. A newly qualified teacher at the same school was convinced of the value of team meetings:

The Thursday meeting is incredibly helpful. You can get advice, exchange ideas and ask "What did I do wrong?". When you begin [teaching] you don't know if what you're doing is working - you tend to want instant results.

Meetings with colleagues was also reassuring: traumas could be shared and it helped a young teacher to know that experienced teachers had similar troubles. The meetings greatly aided the newly qualified teacher's planning: 'It's invaluable planning time. It's given me a set of systems which I suspect that I'll carry with me through my teaching career.'

At this primary school, as well as the weekly meetings, year teams had a couple of extra long meetings, extending throughout the evening (they brought in supper!); language, number and topic work were all thoroughly planned.

The message from these different scenarios is that those establishing activity-led staffing models should think critically about the difference between resourcing teacher time based on best practice, and resourcing based on actual practice, the range of which will be considerable, and which will reflect contextual differences between schools. It is likely that only in some schools will use of time for curriculum coordination be 'cost-effective' and give 'value for money'; or alternatively, it may only be sensible to allocate time for activities which are adequately supported within the Authority, to ensure effective implementation. There are likely to be different inter-phase costs involved in facilitating this development in schools.

The realities of curriculum coordination were different in large and small primary schools, though the need for time was common. A few small primary schools commented, on the questionnaire returns, that two teachers might each have to take responsibility for half the curriculum. In larger schools there were more members of staff to share the responsibility but coordinators had to familiarise themselves with the work of a far greater number of colleagues, and had more classrooms to visit.

Curriculum coordination in secondary schools

In secondary schools, establishing new developments such as vocational courses or new networks was considered very costly in terms of staff time and there were a number of comments to the effect that alternative funding, such as from TVEI or TECs (unavailable to primary colleagues), had been deployed. 'We established industry-business links largely from the Compact initiative that for one year gave us 0.5 staffing'. Time was also taken up researching into different examination syllabuses and courses; and in inter-school consultation or curriculum development and assessment moderation.

In one case study secondary school, a middle manager interviewed said that heads of faculty were now needing more non-contact time for management because there was greater liaison between faculties following a residential weekend organised by the SMT. Difficulties arose where time could not be found. As one questionnaire respondent commented: 'Departments are rapidly becoming "stand alone" elements of

the curriculum rather than "networking". Whole school issues are becoming a subsidiary matter.'

Many secondary school departments are of comparable size to whole primary school staffs. There is no compelling evidence that the type of activities engaged in are any different although, given the increasing range of ability in Key Stages 3 and 4, differentiation may pose a greater challenge.

Support staff

What tangible support was there for staff? Respondents were asked about the level of support received and whether their schools had increased or reduced this since the National Curriculum began to be phased in.

Classroom assistants

In the questionnaire, head teachers were asked to indicate whether their schools had made changes in the total number of hours worked by teaching support staff (classroom assistants, laboratory assistants, school librarians, language assistants and mid-day supervisors) since the introduction of the National Curriculum. Those indicating a change were asked to give brief details of the extent of, and reasons for, this.

About half of the primary school head teachers indicated that there had been increases in the total number of hours worked by classroom assistants, compared with just over a third of those in secondary schools. The main reasons given by primary heads for increases in hours worked were to provide for pupils with special needs and, to a lesser extent, the increased size of classes. Nearly a quarter of those reporting increases indicated that they had an additional full-time teachers' aide.

Provision for pupils with special needs was overwhelmingly the main reason given by secondary school heads: two thirds of those reporting increases (about a fifth of the total sample of secondary schools) gave special needs as the reason and in many cases it was the sole reason given. About a quarter of the secondary heads, compared with less than ten per cent of the primary heads, indicated that the question was not applicable - this reflects the lower incidence of classroom assistance in secondary schools.

Special educational needs support assistants

Detailed data on resources for pupils with special educational needs were not collected in the course of the present project, despite special educational needs being a factor in activity based staffing models, because a research project dedicated to the resourcing of special education started at the NFER in the Summer of 1994. However, comments about special educational needs, and other support needs, arose during interviews and survey responses (for example, see Tables 5.1a-c).

The numbers of pupils with statements of special educational needs showed a typical distribution in the schools in the survey. Some familiar issues were articulated. First, good practice needed supporting. Special needs teachers could be victims of their own success. For example, a case study secondary school had a teacher in each department responsible for pupils with special educational needs; these representatives were given one day's release to work with the head of special needs. They found this so valuable (they worked on a unit of course material) that they wanted further time to develop departmental practice after the initial session.

Second, usage was critical. In one case study school an interviewee remarked that sometimes support was only there because the special needs teachers had a spare timetable slot. The teacher pointed out that assistance was needed for preparing materials and assessing pupils - not just in the classroom. Indeed, one senior member of staff was emphatic that meeting needs was chiefly a training issue.

Several interviewees in both phases remarked that a proportionally greater degree of support was needed as class size increased, since teachers had less time to give to individual pupils; it was not just a matter of a straightforward ratio of pupils to special educational needs support teacher. One interviewee commented that the special needs teachers were 'expensive but important ... a compensation for large classes'. However, although classroom support took some of the pressure off the class teacher, teachers pointed out that support did not affect preparation time. Actual practice within schools was not explored - again, this is the focus of forthcoming NFER research.

One of the case study schools was considering the possibility of introducing support for the top range of ability for, although the school ran master classes for high achievers in mathematics, for example, 'this did not help the problem of those children who do not want to be seen as "boffs" '.

A science faculty in a case study school had experimented with patterns of staffing. Having tried organising year 9 pupils into three largish groups with a 'floating' teacher, they then tried smaller groups all round with one much smaller for those pupils with significant learning needs. The head of faculty remarked that their special needs were mostly social, so the size of class was very important. The same point about the nature of need determining the type of support was made by a secondary school head teacher interviewed. He distinguished between the nature of special educational needs in his present school, which was in a relatively advantaged rural area, and those in an inner city school where he had previously worked. The latter, he considered, demanded small groups and a high degree of adult attention on account of social deprivation. This raises the issue of the context in which special educational needs are met. It may be necessary to exploit different resources to meet different cases of special educational needs which otherwise appear similar if measures are by proxy indicators, such as free school meals or standard tests (reading or verbal reasoning), which do not take context into account. The increasing use of special needs audits in which the needs of individual pupils are assessed in context is interesting in this respect.

The majority of interviewees spoke with great appreciation of all classroom support assistants, whether or not they were dedicated to pupils with special needs. One head

of faculty was critical of the quality of support and claimed that he had been forced to ban a support assistant from the science laboratory because, by her own inability to cope, she further discomforted the pupil with whom she was working. Although this may have been an isolated instance, it reinforces the major issue that any resources must themselves be supported. Assistants need induction and training if they are to work to maximum effectiveness, which has financial implications common to both phases.

In one case study school, needs identification, rather than actual resources, seemed to be the problem. An interviewee said that not all teachers knew about individual needs even though files on pupils with statements were available to all staff. The 'availability' here was, clearly, physical and theoretical; the teachers did not have access to useful data.

One head of faculty spoke of how, if available, a variety of staffing elements could be readily used. Within one Year 9 science class there were 10 pupils with reading ages of nine or under and one pupil with a statement for emotional and behavioural difficulties, all of whom had support. The school was in partnership with a local university department of education for initial teacher training and there were two students working in the faculty at the time of the research visit. For that Year 9 class, the head of faculty worked with 'the pupils who could cope', the two students split themselves among the ten pupils with learning difficulties and the support teacher devoted herself to the pupil with a statement. The head of faculty remarked that balance was fine and 'the quality of learning deteriorates when one element goes', thus suggesting that the costs of adequate provision were directly related to specific contextual features. This case was particularly interesting in that class sizes were comparatively low (low 20s), the actual contact time spent with each class having been 'traded off' against pupil numbers.

Technicians

Just under a quarter of secondary schools reported increases in laboratory technicians' hours (see Table 5.1d) since the introduction of the National Curriculum. The main reason given was to undertake tasks which would otherwise have to be done by the teaching staff. Over 60 per cent, however, said that there had been no change and just over ten per cent said that there had been a decrease. Primary schools rarely employed technicians, though classroom assistants could be used for the preparation of materials and equipment for science investigations.

Data gathered in the course of the case study work and from comments on the questionnaire indicated that the need for technical support was not confined to the traditional areas of science. For example, the demands of National Curriculum PE and music in all key stages meant that a considerable amount of equipment had to be prepared for lessons and then put away. In technology, it was often less wasteful on material resources to have an adult look after the equipment for processes but teaching staff did not have the time. Even in areas like humanities and English, staff said that time would be more efficiently and effectively spent if they had support staff to undertake photocopying and routine administration. As has been pointed out, a reduction in teachers' more mundane tasks could well mean that existing non-contact

time could be more effectively spent and the mundane tasks would be executed more inexpensively.

Other paid support

Just over ten per cent of the secondary schools reported increases in the hours worked by language assistants, since the introduction of the National Curriculum; half indicated no change and just over ten per cent reported decreases. Clearly, this is a phase specific cost as primary schools rarely employ language assistants.

The majority of primary and secondary schools reported no changes in mid-day supervisors' hours. However, comments were made that responsibilities were taken on by teaching staff, sometimes for reasons of exigency, sometimes on account of their greater perceived effectiveness in dealing with disciplinary problems arising during the lunch-hour.

Voluntary help

All the case study secondary schools mentioned sixth form help in Key Stages 3 and 4 especially in practical subjects and modern foreign languages. This was always on a voluntary basis which meant that sixth formers usually chose Years 7 or 8 rather than Years 10 and 11 (probably because the latter were nearer their own age); but it was highly valued by staff and deemed to be of mutual benefit.

The survey asked for amounts of voluntary help received by responding schools. Unusually, the mathematics department in one school surveyed had two full-time teaching volunteers: a governor and the father of the head of department! Other volunteers included students on placement from caring courses, parents and governors.

Support teachers

A critical issue is whether any favourable differential between PTR and class size is used for more non-contact time or for teacher support. The benefits of the latter were enthusiastically outlined in the three case study primary schools which engaged such teachers. Perceived advantages of the arrangement were that it eliminated much of the need to buy in external supply, which could be of variable quality and was not felt to enhance continuity for the pupils; and it could also be used to underpin staff development or particular curriculum needs. The cost could, of course, be offset against the decrease in supply costs.

In one of the schools, there was no support for Reception classes in the Autumn, because they were relatively small, but the extra teacher was moved there in the summer term, when numbers were higher. In the junior part of this school (where classes were 35) individual teachers were able to negotiate their own use of the support teacher. For example, she could cover for them to enable them to have some release time, to support 'slow' or 'fast' learners, or to take half the class for an activity such as PE.

In the second school, the support teacher was possible because the school was operating under a 'best budget', on account of having the highest roll which favoured this particular school under the LMS scheme. The following year the support teacher was not going to be maintained as the roll was down by 10 pupils and there was a two per cent cut anticipated in the LEA budget. However, the support teacher had enabled, on average, an hour a week for subject coordinators and an hour per fortnight for class teachers. In addition, planning time was offered at critical times. All this had proved very valuable.

At the third school the support teacher role was carefully planned. She was attached to Year R/1 part-time (0.5) until the summer term, when numbers rose and she became full-time. She was used collaboratively by the four classes in the year. The school had deployed a floating teacher for some years and used to split the available time between classes, but the National Curriculum had made the staff more aware of the different levels which pupils were at and they had come to the conclusion that the teacher would have a greater impact if she took children at a similar developmental stage in language out of all the classes in the year group. The work could be 'tailored to their needs' and they would have 'uninterrupted quality learning time'. All abilities were included in the arrangement. The staff had predicted that this language support would have a knock-on effect elsewhere in the curriculum and they had already seen a beneficial effect.

A head of mathematics in one of the case study secondary schools considered that effective support was a matter of whole school planning rather than merely the number of support hours available. He considered that 'weak mathematicians are best helped by maths specialists' rather than general support teachers. He also considered that other forms of support could be wasted if use was not carefully thought through. He cited a boy who had a support teacher allocated to him as, having recently arrived in the country, his command of English was weak. The boy's mathematics was satisfactory, however, and the head of department thought that he could generate far better work and communicate better in 'mathematics language' than could the support teacher who was not a mathematician, and whose primary concern was for the boy's language development.

In another primary school, an interviewee spoke of the way she had used allocated support hours more effectively. Previously confining the teacher to four children with learning difficulties, she had now extended the teacher's contact to five other children who were in 'the grey area' and now, with the extra support, 'could flourish'.

In a further example, the learning support teacher worked with a group of children who found it difficult to concentrate, started them on a task, then went to give general help in the class, returning to the 'special' group before they lost concentration and got off task.

Newly qualified teachers and students

The chapter so far has focused on support given to teachers in the normal routines of the classroom. Support given by teachers to teachers undergoing initial training and to those who have newly-qualified has implications for time allocation.

Two of the case study secondary schools had particular experience of mentoring student teachers. One school had four PGCE students, payment in respect of whom allowed the deputy head responsible for staff development an hour per week per student. However, the deputy head pointed out that this was not always straightforward. The subject specialisms of students was not confirmed until the beginning of the September term, when it was too late to book good supply teachers and, anyway, the permanent staff did not want supply teachers as they felt that they were too disruptive to classes. So mentoring had to be done in normal non-contact time and after school.

Other members of staff in the department provided extra input by way of twilight sessions. It was pointed out that if the students were high quality, the input was worthwhile and staff found mentoring stimulating for their own professional practice but if the students were weak, 'they were more trouble than they were worth' and considerable extra stresses were put on the department generally and, in particular, on the mentor.

In another case study school, a mentor to a licensed teacher received no additional non-contact time for mentoring although a 'double free' was protected (it was guaranteed that she would not be called upon to cover). The teacher did all the extra work at home - reading the licensed teacher's lesson plans and records and so forth.

Summary and conclusions

The critical feature of provision by way of support teaching was that it offered flexibility in staffing and could transform otherwise 'tight' staffing situations. It was greatly valued by practitioners though it was also one of the first things to go when budgets were restricted. Secondary schools, on account of size, often have more flexibility in the use of support. Arguably, resource allocation in both phases should consider means to enable this flexibility wherever possible or, at least, should investigate the effects of focusing additional resources in this way.

CHAPTER SIX

OTHER PUPIL-RELATED ACTIVITIES - ASSESSMENT, PASTORAL CARE AND EXTRA-CURRICULAR ACTIVITIES

In this chapter, other key pupil-related activities undertaken by teachers will be considered in order to identify primary/secondary differences. The data on assessment and pastoral care will first be considered although, as will be seen, in practice it was sometimes difficult to see a clear dividing line between these activities, and time spent by teachers could equally well be recorded under either category. The chapter will conclude by examining teachers' involvement in extra-curricular activities.

Assessment

Most of the activity-based staffing models included an element for assessment (see appendix 1). Although assessment has, of course, always been undertaken, being a logical part of any learning programme, the common procedures and national criteria for assessment, brought in with the implementation of the National Curriculum, have entailed specific responses at all key stages.

National data indicate that there are notable differences between the ways that primary and secondary teachers deploy their time for planning, assessment and marking. The first STRB study (STRB, 1994a) indicated the following balance of teachers' hours (primary teachers with an average of 48.8 hours a week, secondary teachers 48.9).

Figure 4 Time (in hours) spent by primary teachers on six most time-consuming activities

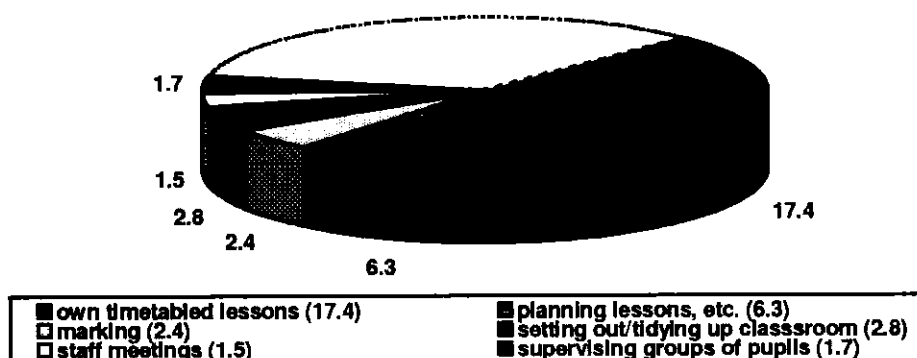
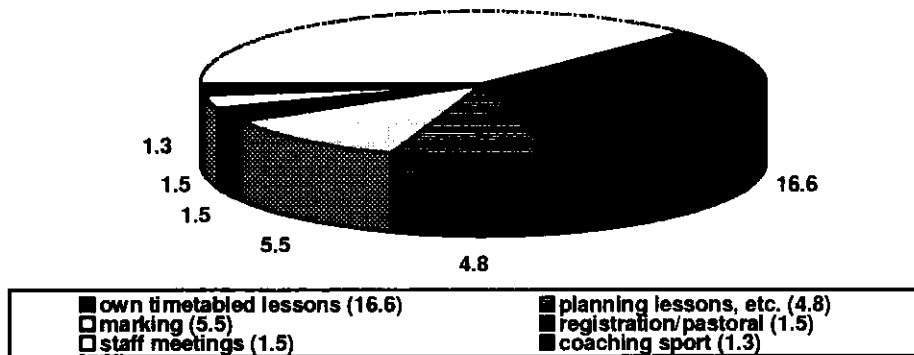


Figure 5 Time in hours spent by secondary teachers on six most time-consuming activities



Evidence from the case studies was that practitioners appreciated the challenge of teacher assessment and thought that the National Curriculum had led to better marking practices. However, if it was done effectively and represented a valuable teaching aid rather than a necessary procedure, it was time consuming. As one interviewee pointed out, detailed monitoring and marking were crucial for progression: 'You can't just say "about level 4" because the pupil has got to progress to level 5'. Pupils had to know what to do to progress to the next level.

There were discernible key stage differences as well as common concerns. The latter revolved round the necessity for staff to meet together within the key stage team as well as within the year team, in order to ensure curriculum coherence; and the necessity to confer with colleagues for agreement trialling in order to validate individual judgements. A number of respondents considered that moderation would become less time-consuming as familiarity with National Curriculum assessment increased, although this will now only apply after the new Orders (GB. DFE, 1995) have been fully assimilated. A teacher in one of the case study schools said that staff were spending an undue amount of time on assessment as they wanted corroboration of their own judgements in order to be fair to the pupils.

Within all case study schools, there was a range of practice as regards time spent on the bureaucracy of assessment (record-keeping), on actually marking pupils' work and on commenting on it. From the interview evidence, it seemed that in primary schools it was easier for teachers to carry round knowledge of their pupils 'in their heads': they knew their class intimately, were planning for their assimilation of material or progression on a day-to-day basis (which underpinned small group work) and, because they taught all the National Curriculum (except occasionally, specialist subjects), were able to have a broad based assessment of individuals. Furthermore, teachers in Key Stages 1 and 2 did not have the same volume of marking as their colleagues in Key Stages 3 and 4.

Although, overall, secondary school staff spend more time on day-to-day assessment, time allocations were affected by a number of factors. There were discrete groups for whom different assessment concerns were particularly pertinent: first, the core subjects, where teachers saw pupils regularly and had quite high degrees of contact

time with them; second, practically based subjects such as music or art, where it was difficult, sometimes impossible, to take work home to assess, so more had to be done in school or in the classroom; third, teachers of subjects which had limited contact time, such as technology, often found it hard to link pieces of work with a pupil's name. They spoke of having to return to pupils' portfolios for evidence. This may, arguably, have been desirable *per se* but, nonetheless, represented practice different from that of mathematics colleagues, for example. A further problem was with modular programmes, often associated with practically-based courses and limited contact time. A new group of pupils would arrive for the module before the marking of the previous group was complete: conferring was difficult when different members of staff marked at a different pace.

The actual profile of teaching groups also affected the global number of hours that secondary school teachers nominally assigned to assessment. Class size, ability range and year were all salient factors. One teacher thought that very little assessment of Key Stage 4 was carried out as everything was focused on GCSE exams and coursework - for which there was a lot of administration in March. There was also some doubt as to whether in secondary schools, assessment was necessarily more demanding at the end of key stages - though there may have been more administration - because more opportunities for formal assessment were seized during courses of study.

Interviewees in the secondary schools commented that the marking load for top sets was considerably more onerous than for bottom sets. An average of three to four hours for a top set of an essay-based subject like English or history was the norm cited by interviewees. So time for assessment could depend on a teacher's timetable profile, although normal practice in the case study schools suggested that staff taught a range of year and ability groups. Again, there are questions about the quality and use of assessment. Several interviewees candidly admitted to not marking in detail as often as they could or should, on account of a shortage of time and large group sizes but, as one interviewee pointed out, this raised the question as to whether class contact could be reduced if pupils were set more homework and teachers had space to mark and comment on it in detail.

A similar issue emerged with low ability groups in secondary schools. One interviewee remarked of Key Stage 4 pupils: 'The bottom sets only write about two sides; they are not interested in comments and improvement so it's much easier to mark'. This raises questions about pupils' motivation, understanding of progress, skills in self-assessment and involvement in their own learning, each of which is related to pastoral care.

Two of the case study secondary schools offered pupils regular individual tutorial sessions when they could have a one-to-one talk about their work, progress and any more personal concerns. These were widely considered by the schools concerned to be very beneficial. One school acknowledged this by reducing pupil contact time by one lesson on a Monday afternoon; the other did it by using supply cover. According to a teacher working under the latter arrangement, the time allocation was inadequate (ten minutes per pupil twice a year) and, though he agreed with the benefits of the scheme for pupils, he felt aggrieved that it was superficially resourced. He considered

that if the school valued the exercise, adequate non-contact time (at least 30 minutes per pupil twice a year) should be allowed. A secondary school questionnaire respondent noted that non-contact time had been reduced in order to resource one period a week for staff to provide individual guidance for pupils.

Such arrangements did not normally apply to primary schools and are a discrete secondary related cost. Primary school teachers considered that the more informal group based teaching in primary schools allowed teachers greater opportunities for regular face-to-face communication on an individual basis. Thus, although individual guidance was given, it was customarily within the normal, daily activities of the classroom and particular difficulties were generally able to be dealt with on the day that they occurred.

Pastoral care

In the activity-led staffing models, specific pastoral care was included, though to a greater degree in secondary models than in primary ones. This reflects different primary and secondary pedagogies, the greater integration of the primary curriculum, the growing independence of the child, and the associated shifts in conceptions of authority, and so forth. Case study evidence suggested that primary school teachers did not perceive a need for a significant amount of additional time to be allocated for pastoral care. Social skills and learning were integrated into the curriculum and pupils' concerns were mostly dealt with at the time or at the end of the day. However, other initiatives may have established structures and procedures which, by their very existence, rendered what was perceived as 'pastoral care' less problematic. Indeed, both the teachers' understanding of what properly constituted pastoral care and its relationship with the curriculum was not clear cut. The actualities of practice undermined attempts to pin down needs into neat categories for allocations of time.

What then were some of the initiatives which helped to reduce tensions, and thus the need for reactive pastoral care, in the schools? Examples were found in schools in both phases. One of the case study primary schools held weekly parents' surgeries, and offered individual interviews in which parents could discuss their child's progress with his or her class teacher. To what degree this could be alternatively categorised as assessment follow-up, parental liaison or pastoral care is not clear. One young teacher at the school spoke of the benefits of these events and of having to look at pupils' progress holistically and across the curriculum rather than just within that child's group:

It's quite valuable ... I tend to think about the child between points - how is the child moving? - rather than looking at them in a group. It makes you think 'maybe if we did that we might make progress'. It really helps to think about things ... It takes a Sunday if you've got parents in on the Monday.

It was assumed that parents would come at least once a term; they could come more often and if they did not fix a meeting, the school sent an invitation. The surgeries were held on Monday afternoons after school but staff would arrange an appointment before school if this was more convenient for parents. Staff said that the school enjoyed very good relations with parents. Surgeries made it easier for parents to pop

in with 'tiny worries' and the one-to-one arrangement was less threatening than a large group meeting. Staff considered that the arrangement supported learning and, implicitly, the child's curricular experience. The class teachers could suggest to parents what they might do at home to help and there was time to talk it through so that parents understood what was required.

One of the case study secondary schools had a well-established system for developing sound relationships with parents. Once again, the boundaries between teaching activities are blurred, for the scheme had implications for record-keeping, reporting, assessment and pastoral care. On entry to the school, each pupil was allocated a tutor who would have oversight of his or her school career. The key feature was that the new intake would be distributed among all staff: the arrangement was additional to the normal form tutor system whereby an age cohort had one teacher who had oversight of them *qua* group through the school. This meant that at any year group parents' evening, all staff were potentially involved, having to see the parents of perhaps two or three pupils. The scheme had been running for about seven years and had been found to be less stressful and far more productive than traditional arrangements. Parents could be matched with suitable staff (for example, those sharing the same minority language or interest); the workload of writing Records of Achievement was shared at the end of Key Stage 4 - so any member of staff had only about three to write at any one time, ensuring that the job could be done with thoroughness; and teachers of minority subjects 'were no longer sitting around on parents' evenings with no one going to talk to them'. Time was needed to maintain clear documentation, such as memos from subject teachers to tutors outlining the pupil's strengths and setting targets for the next twelve months, but it was judged to be time well spent.

This incident illustrates the point that tasks can be costed in terms of time (here, for example, the writing of Records of Achievement) but the management of them determines the quality - and thus, in commercial, terms, the cost-effectiveness - of the output.

Interviewees spoke of the difficulties of the distribution of time to undertake activities which could be regarded as being safely categorised within 'pastoral care' and there were obvious differences in practice (which had time implications). For example, in one school, heads of year undertook home visits when pupils were causing concern (thus this time had to be taken out of the day, although the visits usually took place in the evenings). Elsewhere, this was not the practice, not merely because it was time-consuming, but because the head teacher felt that the school should be accessible to all parents and should be a place to which they felt comfortable coming.

When heads of year, or heads of lower or upper school, became involved with outside agencies, a considerable amount of time could be taken up. The actual amount of time tended to vary according to the socio-economic context. In an inner city school, involvement with the police and courts (for whatever reasons) was more likely than in rural comprehensives, when such activity was claimed to be relatively rare. Such involvement was, overall, more common in secondary schools than in primary, but the socio-economic factors were probably more critical than phase differences.

Secondary school teachers with pastoral responsibility who were interviewed spoke of the difficulties encountered when 'a problem' with a pupil arose during a day on which they had very little non-contact time. Similarly, dual responsibility affected the availability of pastoral support - and thus the use of a valuable resource. In one case study school, for example, there was a trained counsellor but that teacher was also a head of faculty and 'not around to be found' when heavily involved in faculty business. In another case study school, the head spoke of the desirability, but expense, of developing counselling skills: training had to be in small groups if it was to be effective.

Reference was made above to the way in which some schools allocated time to sessions for individual student profiling as it had considerable benefits. Similarly, with specifically pastoral matters, some schools had scrutinised use of available time. One case study secondary school had, for example, pared down registration time (from 20 minutes to five minutes) on the grounds that little serious work could be done in 20 minutes, so it was a more effective use of time to have registration as a chiefly administrative exercise and to save up the extra time for an additional lesson on the timetable. Again, as some activity-led models apportion time for registration, this raises the question not only of what categories are intended to embrace but also whether the categories are, in fact, the right ones.

Before leaving the issue of pastoral care, specific guidance for teachers must be mentioned as this affected the time allocations for those holding responsibility for the well-being of other adults as well as of children. This was principally a secondary-phase related cost as in primary schools it was largely undertaken by senior management. However, it may be related more to teacher numbers (itself related to numbers on roll) than to *phase*. As has been pointed out, departments and faculties in large comprehensive schools are often of a size similar to the whole staff group in primary schools. A head of faculty interviewed admitted that he had to do quite a lot in the holidays as he took seriously the idea of pastoral care for staff in his faculty. A head of Key Stage 4 (upper school) reckoned that he spent about six or seven hours a week supporting tutors. Again, time allocations varied according to staff experience and the particular profile of pupils on roll. Further work would seem to be needed to investigate the relationship of time spent on pastoral care to incidence of socio-economic deprivation as identified by standard indicators. This is, clearly, linked to additional funding for special educational needs but many authorities distinguish between the two elements. Activity-led models do not distinguish different allocations of resources for greater need.

Extra-curricular activities

The impact of what was perceived as inadequate staffing resulting in over-large classes and too high a degree of contact time has been referred to in relation to teacher stress and illness causing absence. Stress was also mentioned in the survey and comments such as the following were made: 'All staff in schools are stretched to breaking point whatever their work or tasks'. These comments were made by both primary and secondary respondents.

There were also comments about effects on additional duties and extra-curricular activities:

Our system could not run without the large number of teaching staff who also act as midday supervisory assistants but because of the other pressures fewer teachers are now willing to do this.

Out of school activities have diminished; the willing volunteers are otherwise engaged.

Other schools reported fewer clubs and weekend activities. In one of the case study primary schools, the deputy head said that he used to offer rugby, football and cross-country but he no longer felt able to do this as there was so much administration to do after school, as well as governors' meetings and twilight INSET sessions. As virtually all the staff were on some twilight INSET course, the school had decided to offer extra-curricular activities for an intensive but contained period of time. For example, a dance club functioned for a couple of evenings a week for a month. 'Teachers can see the end' and did not feel overburdened by a long-term commitment. The deputy head felt that the withdrawal of extra-curricular activity was a big loss, particularly in terms of establishing relationships with families.

In another case study primary school, a broad programme was on offer before and after school and at lunchtimes: gym, karate, football; band, orchestra and choir. However, the head teacher said that clubs previously taken for granted were now affected by meetings. 'Teachers will always work with children so clubs flourish but it gets harder to maintain enthusiasm'.

One of the case study secondary schools had instituted a 'protected afternoon' on which it was guaranteed that there would be no meetings. However, this arrangement was very much a compromise as it was pointed out that it was hard on children who wished to pursue more than one interest.

In all the case study secondary schools there were lunchtime clinics or revision sessions for Year 11 pupils. In one, the technology department offered three lunchtime sessions, in addition to a hovercraft club and, furthermore, had sessions on Sunday mornings for pupils who wished to do some extra work. The science faculty at this school also offered extra tuition for GCSE pupils in lunchtimes but had to withdraw science clubs, because 'no one has the time to run them any more'.

In another case study secondary school, the mathematics department held a lunchtime mathematics club, and two after-school master classes for Year 8 and 9 pupils; in addition, a member of staff accompanied Year 9 pupils to a two and a half hour mathematics workshop at the local university on Saturday mornings.

In rural schools where the majority of pupils travelled in by bus, extra-curricular activities had to be offered in lunchtimes but this could create problems of space and was sometimes too pressurised for staff, particularly if they had no non-contact time on a particular day.

Both primary and secondary case study schools held evening meetings for parents; the latter were often department or subject based, helping parents to support children's coursework; the former were based around the National Curriculum and/or issues of general community interest - for example, one school had organised evening events on IT, art, handwriting, drugs and home safety.

In schools in both phases, extra-curricular activities were undertaken voluntarily by staff - thus, ostensibly, there is no cost. However, the reason for looking at staff's attitudes to these activities is that the effects of resourcing allocations to other activities are highlighted. If it is the perception of teachers that they have insufficient time to carry out normal teaching duties, they will be less likely to engage in voluntary activities. Similar effects were observed in both phases.

Summary and conclusions

This chapter has considered the time spent by teachers on assessment and pastoral care and their involvement in extra-curricular activities. The first two activities were seen to be inter-related, as good assessment practice usually involves the pupil in self-assessment and counselling and thus could be termed 'pastoral care'. Furthermore, strategies deployed in order to engage parents in the curriculum and their child's education, could also cross categorical boundaries.

Involvement in extra-curricular activity was affected both by the geographical location of the school and also by the pressures of the time-table during teaching hours.

The findings point to the use of time allocations and raise questions about the balance of resource allocation within phases. For example, extra time spent on individual pupil interviews may mean that actual class contact time for a particular subject is reduced but it may also mean that contact time is higher quality as a result. Again, there would seem to be a number of research issues here. Further data are needed in order to inform the debate about resource allocation and move it forward into a consideration of school improvement and quality.

The next chapter will report respondents' perceptions of the adequacy of resources for materials, equipment and facilities.

CHAPTER SEVEN

MATERIALS, RESOURCES AND FACILITIES

Although spending on materials, resources and facilities under LMS (ie excluding capital spending under mandatory exceptions) is minimal in comparison with the proportion of the budget allocated to salaries, respondents and interviewees were asked about this aspect of the costs of educating pupils on the hypothesis that there is a relationship between the different components of budget spending.

The questionnaire data

Head teachers were asked to indicate whether, in their view, there had been changes in the demand for material resources (such as consumables, equipment, facilities and books) since the National Curriculum began to be introduced. Although the vast majority of head teachers in both sectors stressed increased needs for consumables and equipment, the primary heads were more likely to be concerned about consumables and secondary heads about equipment: this may reflect the more sophisticated demands of the curriculum in Key Stages 3 and 4.. Head teachers in both sectors were equally concerned about the need for additional books and, to a lesser extent, for additional facilities.

Tables 7.1-7.4 show the perceived demand in primary and secondary schools participating in the survey.

Nearly 90 per cent of the primary school head teachers and three-quarters of the secondary heads indicated that there had been an increased need for consumables (Table 7.1). This difference was statistically significant. The main resource needs identified by primary and secondary heads were for technology and science and, to a lesser extent, for art materials such as clay and paper.

Over 80 per cent of the primary heads and nearly 90 per cent of those in the secondary sector identified an increased need for equipment (Table 7.2). The difference between head teachers' responses in primary and secondary schools was statistically significant. The main items mentioned by primary heads were computer hardware, musical instruments and concept keyboards. Secondary heads also stressed the need for computer hardware and concept keyboards.

About 90 per cent of head teachers in both phases identified an increased need for books (Table 7.3): for the foundation subjects, and, mainly in the primary sector, for history and reading schemes. Secondary head teachers mentioned specifically the high cost of replacing textbooks. Although respondents made mention of the additional resourcing made available by the government for the costs of books for the National Curriculum, demand still outweighed available resources.

Just over half of the head teachers in both sectors mentioned the need for additional facilities (Table 7.4). Areas for physical education, technology and practical subjects, and for storage were all mentioned. Apparatus for PE was mentioned here: although not exactly a facility, it was presumably considered such on account of its size and bulk. Secondary heads also mentioned areas for technology and practical subjects, and areas for PE - indoor sports halls, floors suitable for dance, and fields for outdoor sports.

Qualitative data

When gauging the adequacy of material resource and facilities much depends, of course, on the starting point. Although the survey could not go into any detail here, respondents did write about such things as the effect of old buildings which were inappropriate for current teaching methods and which restricted activities.

Respondents commented both on consumables and on facilities. There was a high degree of linkage of perceived requirements to both 'good management' and curricular concerns. For example, reference was frequently made to resourcing for technology. More materials were needed, on account not only of the expansion of the subject, but also the nature of the requirements. A questionnaire respondent wrote:

National Curriculum technology increased student contact with all technical areas and the input of five per cent compulsory 'materials' element in Key Stage 4 is very costly - we rely on the generosity of local industry.

A greater degree of investigative work (for example, experimenting with different properties of ingredients in food technology; or with different materials) meant that an article was not made from start to finish so pupils could not be charged for a completed item. Several technology teachers interviewed also considered that high quality materials encouraged high quality work. The expansion of technology also created resource problems as regards space. First, a number of schools commented on the lack of room for storage. This was not just an administrative matter. A couple of teachers interviewed observed that they were unable to keep examples of excellent or interesting work undertaken by pupils to use as teaching aids with subsequent years as there was nowhere to store them. A primary teacher said that they often had 'to reinvent the wheel as there is nowhere to store anything'. Shortage of storage space also meant that pupils' projects had to be restricted - they were often encouraged to design something of small dimensions. This was also necessary because of shortage of bench space in workshops - something that was related to class size, as outlined in chapter 3 - but also to the area available.

Problems of storage were also commented on in other departments. Several primary teachers interviewed observed that, on the one hand, multiple sets of resources were desirable to save time fetching and carrying and to increase access to admit maximum curriculum flexibility; on the other, there would be significant storage problems if they had all the desired resources.

Space was also referred to in other contexts. In two of the case study primary schools, staff commented on the fact that rooms were too small to have a separate artwork or

practical area which could be left set up; only rarely did primary schools have a spare room for craft or technology. Problems of classroom management for practical activities were compounded where there was no running water in classrooms and teachers had to improvise with buckets of water.

Small classrooms also precluded merging infant and junior classes at story time to free a teacher to work with a small group of children or do administration. And the head teacher of a small rural primary school commented ruefully that there was no staffroom or office where anyone *could* go if they had some non-contact time!

In secondary schools, heads of department/faculty interviewed preferred to have subject suites of rooms. Where space was fully utilised, one or two members of the departmental team might have to be housed away from their subject colleagues; this had implications for liaison and for access to materials and equipment. It was particularly critical in practical subjects where some groups might have to have a theoretical lesson in an ordinary classroom if workshop or laboratory space was limited. Although manageable, the arrangement imposed further restrictions on curricular activity and involved additional time for planning lessons in collaboration with other staff. This sort of problem was particularly hard for expanding or over-populated schools.

Reference was made in a previous chapter to the issue of the effective use of non-contact time; this is pertinent similarly to materials. In one of the case study primary schools staff commented on the high quality and adequate resources available at both key stages. These had been acquired with reference to the curriculum development and school development plans, with particular curricular areas being the focus of the budget systematically. Care had been given to acquiring high quality resources which were useful and used; staff consultation had provided the base from which decisions were made. A teacher said, 'Planning across the board is good here. The resources are good quality and appropriate. Planning pays off.'

Another primary co-ordinator pointed out that teacher (co-ordinator) time was needed to support resources: colleagues had to be shown how to use resources effectively. A primary maths co-ordinator said:

If staff don't use materials immediately after an INSET session, then they forget about them. Lots of informal contact is best - this has an immediate effect. There's a danger of things being filed away and forgotten.

Similar examples of the need for staff time to support resources were given in secondary schools. For example, one head of art had a collection of about 2000 postcards of works of art but these needed cataloguing if they were to be of use in lessons. A respondent to the secondary school questionnaire wrote: 'We need a full-time assistant librarian if we are to expand the scope of the library and included non-book materials - eg CD Roms and word-processors.'

Such comments underlined the need, also articulated in the primary schools, for non-teaching support and assistance to be allocated to subject departments on a base broader than the traditional focus on laboratory and workshop technicians. If support staff could assume more routine administrative tasks, this could then free teachers for

more curriculum liaison and support. As one respondent noted: 'PE, art and music are all heavily dependent on materials being prepared and set out'.

Both in the interviews and in the survey responses, the contribution of support staff was highly regarded. In one of the case study primary schools a teacher said: 'If we had to rely on what we can pay for then we would not have what we have. Everything is done by people within the school.' She spoke of the skill with which classroom assistants produce support materials such as tactile letters for beginning readers.

The growth of information technology and the possibility in terms of teaching aids it gave rise to was widely commented on. Hardware purchased in the early 1980s was now considered outdated. This was the sort of equipment that could be replaced on a rolling programme but this took up most of the available budget. Meanwhile, new equipment, by way of electronic apparatus, was attractive but often impossible to purchase within existing budgets. A head of science in one of the case study secondary schools (c 1000 on roll) estimated that it took about £9000 a year 'just to stand still' as regards consumable resources in his faculty.

It was mentioned above that respondents to the survey commented on the overwhelming demand for books to support the National Curriculum, a demand that was not accommodated by additional central funding. One head teacher wrote:

Parents feel very strongly that children should have a personal copy of each and every textbook in use. I think this is a reasonable expectation but it is not one I can sustain, much as I would wish. I would need another £10,000 p.a.

In one of the case study secondary schools, situated in a middle-class, semi-rural area, Key Stage 4 pupils bought their own English texts. Elsewhere, this was not possible.

Summary and conclusions

Although material resources represent a small proportion of educational spending, respondents commented on the curricular effects of what they considered to be under-funding in this area. However, as with the issue of non-contact time, respondents stressed the need for planning for resources and linkage to development plans, be these for the school department or primary school year team. Time was needed not only to make informed decisions about resources needed but also for staff development to ensure that full value was derived from the resources. Where good commercially produced materials were available, it was considered a waste of time for teachers or other staff to produce these in-house.

The message regarding material resources and equipment seems to be similar to that emerging from other chapters: spending here needs to be linked to effective practice and there needs to be an awareness of the inter-relatedness of resource management in schools.

CHAPTER EIGHT

SUMMARY AND CONCLUSIONS

What conclusions can be drawn from the research?

There are three main concerns in the current funding debate: to raise the level of schools' funding overall; to adopt a national programme of school funding in which current anomalies between similar schools in different local authorities are removed; and to fund primary schools on a similar basis to that of secondary schools. Issues raised in one area can quickly be complicated by those raised in another, and it is important to be clear about the focus of the present report and the evidence concerning comparative costs in particular.

Summary of the present funding position

The Comparative Costs Project has shown, *inter alia*:

- a national trend, since 1979/80 of increasing unit costs in both the primary and secondary phases, with a greater increase in primary than in secondary
- substantial variations between LEAs in the scale of the difference between primary and secondary funding, and in measures taken to redress this
- a widespread acceptance that primary schools have a good case for a greater share of the education budget
- the development in an increasing number of LEAs of activity-led staffing models, which favour relative improvements in primary phase funding
- equally balanced arguments in both primary and secondary schools for reducing class size, but with more primary than secondary school head teachers finding present levels unacceptable
- greater dissatisfaction with existing staffing levels in primary schools than in secondary schools, with the latter having greater increases in mainscale and promoted posts
- the increasing deployment of classroom assistants, especially in primary schools
- common requirements in primary and secondary schools for curriculum co-ordination, yet a less regular and extensive allocation of this to classroom teachers in primary schools
- more scope for secondary schools to deploy staff flexibly
- more time spent by secondary schools staff on assessment activities
- concern in primary schools about the purchase of consumables, and in secondary schools about the purchase of equipment

Funding or costs?

It is easy to mistake trends in funding for trends in costs. Many of the trends which this Project has noted in effect reflect changes in funding under LMS, rather than trends in costs; many of these have been unplanned, even unintended, shifts in patterns. Furthermore, the trends in schools' funding may reflect not different costs, but relative parsimony. For example, the Audit Commission (1993) noted that, following the implementation of LMS, primary head teachers were particularly successful in reducing running costs, enabling them to increase the number of classroom assistants. Similarly, an NFER study (Maychell, 1994) reported a marked increase in administration (on average, from 1990 to 1993, about ten hours a week in primary schools and 30 hours a week in secondary schools) but more primary than secondary school head teachers said that they undertook the administration themselves (four-fifths of the sample of primary head teachers and about half the sample of secondary head teachers).

The role of activity-led models

Essentially, much of the debate about comparative costs nationally has centred on whether activity-led models would lead to more equitable allocation of resources, reflecting real need rather than 'need' allocation by mechanisms using data based on out-of-date, or unjustifiable, practices. Arguments are grounded in whether similar needs (identified by what teachers, as a group, have to do to deliver the curriculum at the different key stages) are resourced similarly. There has, to date, been little attention - within discussions of this resourcing methodology - as to the effect on pupils' learning of different patterns of resourcing.

On the positive side, first, activity-led models display procedural equity in that they are open formulae and can be applied across phases. They are thus appropriate to, and in the spirit of, Local Management.

Second, if the premise of activity-led staffing is accepted (namely, that resources should be derived from the activities in which teachers actually engage) then the work involved to prepare the models has shown effectively that primary and secondary teachers would seem to engage in very similar activities as regards the delivery of the curriculum. These parallels have also been borne out by the School Teachers' Review Body (1994). Preparation, class contact, assessment and team meetings are common across phases; greater amounts of time spent by secondary teachers in pastoral care and counselling, especially in relation to Records of Achievement, are negligible *per se*. Middle management roles and responsibilities have become very similar in both phases. In primary schools, curriculum co-ordinators have to be responsible for subject specific work of all colleagues; in larger primary schools this number equates to a subject department team in a secondary school, while in small primary schools (those with fewer teachers than National Curriculum subjects) individual teachers have to be responsible for more than one curriculum area. In larger secondary schools, there is a need for additional 'senior' middle management co-ordination (for example, meetings of heads of faculty) but, again, this is a minimal cost. The requirements of Key Stage 2 Programmes of Study are increasing the demand for subject specialism in primary schools and this usually implies more flexible staffing.

Differences lie in the curriculum provision at Key Stage 4, in that teaching groups have to be smaller if sufficient choice and diversity to meet different abilities, aptitudes and preferences are to be offered; in the introduction of a modern foreign language at Key Stage 3; and in the provision of curriculum support by way of technicians and foreign language assistants. Differences are also discernible in equipment and facilities costs (for example, the maintenance of laboratories and the higher book budget to service the greater depth and range of the curriculum at Key Stages 3 and 4) but as these represent a relatively small proportion of total spending, they are not so significant.

What, then, is the value of the models as regards distributional equity? The development of activity-led models has shown the flaws in current formulae: the key stages would seem to be similar categories with similar characteristics if teacher tasks are taken as the point of comparison. The modelling itself has shown this and action can be taken by adjusting present AWPUs - as several authorities have done. Remediation does not depend on the full adoption of activity-led models as a resourcing mechanism.

Then, when we examine how resources are deployed, further questions need to be raised about whether the use of activity-led models represents any advance on present methodologies. The research data suggest that schools win or lose in practical terms (not necessarily in financial terms or, at least, the two losses are not necessarily co-terminous) by the combination of internal factors in the school and the accumulated impact of different external funding considerations.

Essentially, the contextual features of a school, and the particular management decisions that they occasion, influence the allocation of resources within the school. The effectiveness of resource allocation is, of course, partly determined by the quality of management decisions: one of the central aims of LMS was to improve the quality by shifting responsibility to the institutional level. However, there is evidence from both this research and that of a related NFER project (Maychell 1994) that, in order to achieve the same output or effect, management decisions may need to be supported by differentiated resources; that is, the contextual features of a school need to be detailed and linked to educational objectives.

National reports have highlighted the importance of careful planning for resource allocation at a level higher than that of the school itself (Audit Commission, 1993; National Audit Office, 1993; OFSTED, 1993a and b). OFSTED (1993d p5) state that 'the process of allocating the budget ... should reflect, in monetary terms, the school's aims and objectives within available resources'. That is sound advice but the way in which 'resources' are 'available' will either constrain or support the effectiveness of the decision-making.

It could be argued that resource allocation at local government level should consider schools' relative institutional needs in terms of the way in which contextual features impinge upon possible outcomes. It is not just a matter of extra support for socio-economic deprivation factors; more, of trying to allocate resources so that schools have a reasonably equitable chance of delivering the curriculum equally effectively.

This in no way minimises responsibility within institutions for wise decision-making, nor does it assume that schools will necessarily have similar educational aims.

However, if a new methodology for resource allocation is to be developed and become operational, then it would seem to need to add some extra quality or value to the system - ie to facilitate improvement and the raising of standards which was the keynote of the 1988 legislation. On the basis of data gathered for this report and for other examinations of the issue (particularly, House of Commons, 1994), there would seem to be a case for 'flattening' AWPUs, particularly to the end of Key Stage 3. But there may be grounds for giving different resources to individual schools within phases on dimensions other than those established within existing LMS schemes.

There has been a considerable amount of consistent and rigorous research on school effectiveness and improvement on the one hand, and, on the other, on LMS and resourcing. What is lacking, perhaps, is a synthesis of the two strands. It is interesting that in some LEAs' work on resourcing for special education provision - which, as pointed out earlier, is often separate from activity-led modelling - there is a focus on a pupil's needs within a context rather than the pupil's characteristics *per se*. That is, it is acknowledged that the same pupil, with a set of characteristics, will not necessarily require the same unit of resource if placed in different contexts.

This is untidy and does not fit comfortably with simple formulae but it may, notwithstanding, lead to equity. The focus is on curriculum entitlement and ensuring that the same quality of curricular experience is provided within different settings. The same approach could be applied to groups of pupils (even whole year groups) within different schools. In such a scenario, it is need in context, rather than than age, which is the significant factor.

There is, to date, emphasis on monitoring of resources but, perhaps, less attention to evaluation of the use of resources, particularly linking use to outputs. It is not suggested that this is anything but a very demanding task but it might put a different perspective on 'winners' and losers' and turn the focus from age to pupils *qua* learners.

Meanwhile, there is sufficient evidence to give grounds for levelling the AWPU continuum as and when it is possible: that is, when additional resources are available, it is suggested that they should be focused on primary rather than secondary schools. There was consensus on this point in all the LEAs that had done work on comparative costs. However, within a cash-limited situation, it is likely that there will be other priorities - for example, school buildings or the support services - so it may be that comparative costs will attract differential resourcing for some time unless other means of informing the sharing of resources emerge within local authorities or there is a revision of the determination of education budgets within the Standard Spending Assessment.

'Drift or shift' ?

There is no evidence at present that secondary schools are over-funded and, at the time of the research, there was little evidence that primary school staff wanted money to be diverted from the secondary sector to their schools - though attitudes may have

hardened somewhat latterly. It is important to recognise that any changes in funding may have unexpected consequences if the different cultures of primary and secondary schools (partly shaped by the years of different funding) are not taken into account. It is certainly incumbent on those proposing change to clarify their goals beyond simply those of pursuing equity: the ramifications for higher achievement, not least, should be set out and considered carefully for both sectors.

The outstanding question remains whether to promote a *shift*, which suggests a more directed or radical change in the balance, or a *drift* in primary/secondary comparative funding. The recent trend has been towards a relative, albeit marginal, improvement of primary funding, and the government response to the House of Commons Education Committee's (1994c, p.iv) report on the disparity of funding between primary and secondary schools suggested support for the drift to continue.

The Committee had concluded (GB. House of Commons, 1994a, p.xxxix):

We do not believe that secondary schools are too well off, but primary schools are, by comparison, worse off. We recognise that no school will ever have all the resources it could use; however, if any particular phase of school education is funded at a disproportionately low level, children of all ages will suffer, and in the long run the nation as a whole suffers.

The Government responded:

It is unclear whether the Committee would expect the Government to intervene directly in the specific funding patterns developed by 109 different LEAs through their LEA schemes. That would be a departure from long-standing Government policy. The Government's concern is to ensure that the factors in LMS schemes are objective and applied even-handedly as between individual schools, rather than with the values attached to particular factors. However, any shift in expenditure by LEAs from secondary to primary will be directly reflected in the relative size of SSA sub-blocks in following years. This is the mechanism whereby changing local priorities are most effectively translated into Government funding allocations. If local authorities are persuaded of the Committee's case - as data for recent years appear to suggest - then the shift in expenditure and hence funding from secondary to primary schools is likely to continue. In the light of the Committee's findings the Government welcomes the evidence of willingness at local level to shift the balance over time in the light of changing local circumstances. The Government hopes that LEAs will take the Committee's arguments into account in reaching their decisions.

Clearly, the issue of comparative costs has to be set within a broader perspective and political considerations about where major funding decisions should be taken. The current situation enables local reallocation within a national framework and an opportunity to focus on local partnership, negotiation and development. A stronger central government intervention would further presume a direct relationship between national policy-makers and local provision in schools, something which most local authorities positively seek to mediate.

For the current *drift* to become a *shift* - more directed or more radical - would need stronger central policy determination and would certainly bring substantial winners and losers. The arguments for drift are those of gradual change, enabling close attention to cultural and contextual factors, but the dangers of drift are those of sustaining major variations which, with greater transparency of budgetary allocation processes, continue to foster grievances.

Further progress on comparative costs may now be over-shadowed by other aspects of the funding debate: namely, the pursuit of additional funding overall and the broader argument over funding differences for similar schools within different LEAs. However, the issue is unlikely to disappear, particularly in the light of increasing interest in cost-benefit analysis of alternative educational interventions, and in the climate of a greater emphasis on accountability and value for money. Furthermore, there is growing feeling, and some evidence, that measures to prevent failure early in the child's school career tend to be more effective (on financial, educational and social criteria) than those which attempt to address the long-term consequences of that failure, once it has become embedded. We confidently predict that the comparative costs debate will run and run.

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APPENDIX 1

TABLES

Table 1.1a: Achieved sample of primary schools by key stage

Key Stage in school	number	per cent
KS1 only	101	24
KS2 only	144	34
KS 1 & 2	174	42
TOTAL	419	100

Note: based on data from ROS

Table 1.1b: Number of schools with any KS1 or KS2 pupils

Key Stage in school	number	per cent
Schools with any KS1 pupils	275	66
Schools with any KS2 pupils	318	76

Note: above percentages add up to more than 100 since some schools had both KS1 and KS2 pupils.

Table 1.1c: Achieved sample of secondary schools

Age range	number	per cent
11 - 16	177	58
11 - 18	123	40
(error)	7	2
Total	307	100

Table 1.2: Schools taking part in the study by type of catchment area

Type of catchment	primary %	secondary %
County town and/or rural	39	35
Suburban	30	26
Inner city/urban	29	36
No response	2	3
Total	100	100
N	419	307

$\chi^2 = 4.94$, $df = 3$, $p = ns$

Table 1.3a: Percentage of pupils eligible for free school meals

Pupils eligible for free school meals	primary %	secondary %
5 per cent or less	16	9
5.1-10 per cent	16	19
10.1-20 per cent	23	26
20.1-30 per cent	15	15
30.1-40 per cent	10	10
More than 40 per cent	13	11
No response	8	9
Total	100	100
N	419	307

$$\chi^2 = 8.13, df = 6, p = ns$$

Table 1.3b: Percentage of pupils with statements of special educational need

Pupils with statements	primary %	secondary %
None	12	2
1 per cent or less	29	27
1.1-2 per cent	21	27
2.1-3 per cent	10	16
3.1-4 per cent	4	10
More than 4 per cent	8	10
No response	15	8
Total	100	100
N	419	307

$$\chi^2 = 48.38, df = 6, p << 0.0001$$

Table 1.3c: Approximate percentage of pupils needing ESL support

Needing ESL support	primary %	secondary %
None	18	15
1 per cent or less	8	21
1.1-2 per cent	6	4
2.1-5 per cent	8	7
5.1-10 per cent	9	6
10.1-20 per cent	8	6
More than 20 per cent	7	5
No response	37	37
Total	100	100
N	419	307

$$\chi^2 = 31.80, df = 7, p << 0.0001$$

Table 1.3d: Approximate percentage of pupils with other special educational needs

Pupils with other special educational needs	primary %	secondary %
None	4	5
1 per cent or less	5	7
1.1-2 per cent	4	5
2.1-5 per cent	9	10
5.1-10 per cent	15	13
10.1-20 per cent	22	19
More than 20 per cent	13	12
No response	29	29
Total	100	100
N	419	307

$\chi^2 = 5.30, df = 7, p = ns$

Tables 3.1: Class size by year group in primary and secondary schools

Year	mean class size: primary
R	26.4
1	27.8
2	28.4
3	28.5
4	28.7
5	28.4
6	28.5

Year	mean class size: secondary	
	English	mathematics
7	26.1	25.9
8	26.1	25.7
9	25.1	24.7
10	23.4	22.4
11	22.8	22.4

Table 3.2: Acceptability of class sizes for delivery of the National Curriculum

	primary %	secondary %
Acceptable	34	39
Not acceptable	62	41
No response	4	20
Total	100	100
N	419	307

$\chi^2 = 56.90, df = 2, p < 0.0001$

Table 3.3: Numbers of schools with combined age group classes (primary schools)

Year	No combined classes	1 combined class	2 combined classes	3 combined classes	4 or more combined classes	all
	N	N	N	N	N	N
R/1	6	49	15	1	0	71
R/1/2	1	14	2	1	0	18
1/2	13	53	15	12	0	93
2/3	2	23	1	3	0	29
3/4	8	47	11	10	0	76
4/5	0	34	2	2	0	38
5/6	9	50	9	10	0	78

Note: since the number of schools with each combination of combined age classes was less than 100, numbers - rather than percentages - have been given.

Table 4.1a: Promoted posts/allowances excluding headteacher (primary schools)

No. of posts	Type of promoted post/allowances					
	DH %	A %	B %	C %	D %	E %
None	7	10	34	90	97	97
1	89	27	23	5	0	0
2	1	27	23	2	0	0
3	0	20	10	1	0	0
4	0	7	5	0	0	0
5	0	3	1	0	0	0
6 or more	0	2	0	0	0	0
No response	3	3	3	3	3	3
Total	100	100	100	100	100	100
N	419	419	419	419	419	419

Table 4.1b: Promoted posts/allowances excluding headteacher (secondary schools)

No. of posts	Type of promoted post/allowances					
	DH %	A %	B %	C %	D %	E %
None	0	0	0	1	2	7
1	11	2	0	5	2	13
2	50	6	2	6	3	20
3	29	9	1	9	6	20
4	3	10	3	10	7	13
5	0	11	7	15	10	5
6	0	9	4	9	12	1
7	0	9	7	9	12	2
8	0	9	10	7	12	1
9	0	5	9	4	9	0
10	0	5	7	4	0	0
11-15	0	12	31	8	0	0
16 or more	0	2	9	1	0	0
No response	7	11	10	12	25	18
Total	100	100	100	100	100	100
N	307	307	307	307	307	307

Table 4.2: Pupils per promoted post (unweighted)

	number of schools	mean number of pupils per promoted post	standard deviation	significance of difference (t-test)
Primary	407	56.4	23.9	
Secondary	285	33.3	37.0	p < 0.0001

Table 4.3: Average non-contact-time (percentage of teaching week) for different posts

	primary median	10th-90th percentile	N	secondary median	10th-90th percentile	N
Deputy head	7.5%	0-20%	379	60%	45-73%	295
Curriculum coordinator	3%	0-10%	356	-	-	-
Head of faculty	-	-	-	24%	18-29%	216
Head of department	-	-	-	20%	15-24%	278
Head of Year	-	-	-	25%	20-32%	285
Other middle managers	-	-	-	20%	15-27%	265
Newly qualified teachers	3%	0-10%	260	20%	13-24%	276
Other teacher	3%	0-5%	298	15%	11-19%	286

Note: The numbers of schools providing information varied for different types of posts. Medians and percentile ranks are based in each case on the numbers of schools providing information.

Table 5.1a: Numbers of full-time classroom/welfare assistants (general duties)

	none %	one %	two %	three %	four %	five %	six %	NR %	all %
Primary	5	18	4	2	1	1	1	68	100
Secondary	8	4	1	2	0	0	0	86	100

Percentages based on 419 primary schools and 307 secondary schools

Table 5.1b: Numbers of full-time classroom/welfare assistants (for pupils with special educational needs)

	none %	one %	two %	three %	four %	five %	six %	NR %	all %
Primary	6	9	2	1	0	0	0	81	100
Secondary	4	9	7	5	4	2	3	67	100

Percentages based on 419 primary schools and 307 secondary schools

Table 5.1c: Numbers of full-time secretarial/clerical staff

	none %	one %	two %	three %	four %	five %	six %	NR %	All %
Primary	3	26	2	0	0	0	0	69	100
Secondary	0	9	21	31	19	10	9	7	100

Percentages based on 419 primary schools and 307 secondary schools

Table 5.1d: Numbers of full-time technicians/laboratory assistants (secondary schools only)

	none %	one %	two %	three %	four %	five %	six %	NR %	All %
Secondary	1	14	23	24	16	6	7	9	100

Percentages based on 307 secondary schools

Table 7.1: Perceived changes in need for consumables since the National Curriculum began

	no change %	increased %	decreased %	no response %	All %
Primary	7	89	1	3	100
Secondary	12	75	6	7	100

$\chi^2 = 30.40, df = 3, p \ll 0.0001$

Table 7.2: Perceived changes in need for equipment since the National Curriculum began

	no change %	increased %	decreased %	no response %	All %
Primary	13	81	1	5	100
Secondary	4	89	1	5	100

$\chi^2 = 15.73, df = 3, p < 0.01$

Table 7.3: Perceived changes in need for books since the National Curriculum began

	no change %	increased %	decreased %	no response %	All %
Primary	5	91	1	4	100
Secondary	4	89	3	5	100

$\chi^2 = 6.10, df = 3, p = ns$

Table 7.4: Perceived changes in need for facilities since the National Curriculum began

	no change %	increased %	decreased %	no response %	All %
Primary	34	56	2	8	100
Secondary	34	56	2	8	100

$\chi^2 = 0.00, df = 3, p = ns$

APPENDIX 2a

Some examples of typologies of teacher activities and school circumstances on which activity-led resourcing models were based

1

- class-based activities (staffing, supply, materials/equipment and its maintenance)
- curriculum-related activities (assessment, work experience, extra-curricular activities, curriculum co-ordination, library)
- admissions, transfers and pastoral work (records, correspondence, meetings, careers, home visits)
- appointments, training and appraisal
- administration and miscellaneous (governors, external relations, stationery and clerical)
- site-related activities (midday supervision, energy, cleaning, maintenance, insurance, materials)

2

- assessment, records of achievement, reporting to parents
- SAT administration (end of key stage)
- non-contact time
- transition liaison
- management
- appraisal

3

- basic staffing
- special education needs
- curriculum development and professional support
- liaison with pre-school provision
- management and administration
- review, assessment, records
- reception class allowances
- small school allowance
- social disadvantage
- difficult buildings
- section 11 staffing

4

- class size
- special educational needs
- cover
- preparation
- assessment and recording
- management

5

- class size
- teaching factors:
- small group work
- assessment
- special learning needs
- environmental factor
- curriculum protection
- management factor (headteacher non-contact time)

6

- classroom contact:
 - teaching time for different age groups
 - post-and pre-session supervision
 - additional classroom support
 - special education support
 - optimal number in group
- school-related duties:
 - policy development
 - external relations
 - break supervision
 - site administration
 - timetable creation
- teacher-related activities
 - cover
 - professional development
 - staff meetings
 - parents' evenings
 - preparation
 - appointment and supervision of staff
 - GCSE moderation
- pupil-related activities
 - pupil development
 - admissions and induction
 - examination administration
 - work experience
 - preparation, marking, recording
 - extra-curricular activities
 - reports and references

7

- basic teaching requirements
 - class size plus average distribution of HT, DH and allowances
- support teachers for reading support time for pupils without statements
- management tasks
 - pupil related
 - staff related
- cover for absence

8

- maximum class size
- class size related to particular areas of the curriculum
- additional classroom help
- non-contact time (eg for preparation, assessment, recording, counselling)
- management time (curriculum and administration)
- cover
- INSET additional to statutory provision
- appraisal
- non-teaching support
- provision for special educational needs
- social needs

9

- curriculum teaching time
- contact time
- statutory collective worship
- arrangements for pupils with special educational needs
- curriculum maintenance
- lesson preparation
- planning and resource management
- recording and assessment
- cover
- curriculum liaison with other schools
- pupil-specific activities
- pastoral time
- formal assessment
- residential trips and educational visits
- school-specific activities
- policy/decision making
- external management
- parental liaison
- governor relations
- information processing
- professional development
- teacher-specific activities
- in-service and professional development
- appraisal

10

- working with pupils in groups
- working with or for pupils individually (eg reports)
- school management and administration
- teacher related activities (INSET) and professional development
- activities consequent on physical organisation of the school (eg split site)

11

- pupil numbers
- class size
- teacher contact time
- support staff
- supplies and services
- premises costs
- rental
- exam fees
- fixed costs
- rates
- minimum basic management
- Additional Educational Support
- special educational needs
- bilingualism
- other factors
- management
- insurance
- split site
- pool maintenance
- premises costs

12

- teaching
- teaching related
- pupil-related activities (including extra-curricular)
- school management and curriculum-related activities
- administrative/other school management activity
- individual/professional activity
- other

(taken from STRB, 1994)

APPENDIX 2b

Some examples of 'parameters' or 'assumptions' underpinning resource allocation

1

The LEA designed a curriculum led staffing model based on a hypothetical school of 180 pupils per year group. Each class was allocated a notional 30 pupils with non-teaching assistance as follows:

YR: 1 NNEB
Y1-2: 1 NTA
Y3-4: 0.5 NTA
Y5-6: 0.25 technical assistance

This was the only model in which allowance was made for different class sizes for different aspects of the primary curriculum. Smaller classes were allowed for in years 1-4 for science, technology and PE; and in years 5 and 6 for history, geography, art and music.

In addition, the following allocations were made to schools:

Assessment, RoA, reporting to parents	5 days per teacher
SAT admin (end of KS)	15 days per teacher
Non-contact time	2.66 periods per week per teacher
Transition liaison	KS1-2 3 days per class KS2-3 6 days per class
Management	1 teacher per 180 pupils
Appraisal	8 hrs per teacher over 2 yrs

The revised model resulted in a higher allocation for pupils in year 6 and thus a far 'smoother' curve between years 6 and 7 than was the case in the previous model where there had been a steep rise at year 7.

The authority planned to extend the model through the rest of the formula.

2

Class sizes: 27 in primary. In secondary years 7-9, there should be a range from 20 (for technology) through 24 (for science, foreign languages) to 27 (other subjects). There should be a reduction in all subject areas in years 10 and 11.

Allocation for special education was assessed at 20 minutes per week for 18 per cent of the school roll. Assessment was allocated 2.15 hours in school time and 1.6 hours out of the school day per pupil per year.

Total management time amounted to 14 hours per pupil per year.

3

The model was based on the following set of assumptions:

- there should be a baseline PTR common to all key stages (the recommendation was one teacher per 26 pupils although classes might have to be larger. In small primary schools, the PTR might have to be lower to avoid a teaching group including more than two chronological ages.
- every primary teacher is required:
 - to work within the whole National Curriculum
 - to offer specialist advice
 - to receive specialist advice
 - to work with flexible group sizes (this required an additional 0.3 fte teacher per 26 pupils)

- every teacher needs time to engage in pastoral care, home-school links and multi-disciplinary work, and to ensure continuity and progression
- each school needs adequate management time (0.02 fte per 26 pupils was recommended)
- every class needs non-teaching assistance (0.5 fte per 26 pupils was recommended)

A working party of secondary school headteachers within the authority had drawn up a new curriculum-led model for the secondary sector, based on the number of lessons each week per subject within the curriculum, and the size of teaching groups for these. The working party came to the conclusion that it was hard to justify the differences in class sizes between Key Stages 3 and 4 as established in the LEA's existing staffing model.

The maximum class size recommended was 28 for mathematics, English, history, geography, RE, languages and PSE; 25 for science, PE, art, music and drama; and 20 for technology.

In addition the following were suggested:

- within classes with a maximum of 28, one group would not exceed 23, giving a worst average class size of 27
- within the classes with a maximum of 25, one group would not exceed 20, giving a worst average class size of 24
- within the classes with a maximum of 20, one group would not exceed 15, giving a worst average class size of 19

4

The model was based on certain principles of teaching and assessment for primary aged pupils.

These assumed the importance of the following:

- practical, individual and group work
- oral work and discussion
- extended learning groups for more able children
- formative assessment and profiling
- support groups for under-achieving children

The effectiveness of these was enhanced by the following management devices:

- senior managers supporting teachers in the classroom
- using curriculum co-ordinators to support policy implementation
- liaising with and meeting parents
- maintaining the school development plan
- engaging in external relations

The actual staffing model thus aimed to realise these principles. It was constructed on the following factors:

- class size
YO : 26
YR/1 : 24
YR2/4 : 26
YR5/7 : 28
- teaching factor:
 - small group work (extra teacher for 5% of 25hr teaching week)
 - assessment (75 mins per child at end of KS1 and 2; 45 mins per child in other years)
 - special learning needs (4% of teaching week)
 - environmental factor (10% of pupils for 2.5 hours per week on sliding scale according to school need)
- curriculum protection/management factor
 - curriculum protection - 0.8 fte per school

- head teacher non-contact time on graduated scale according to nor. (The head teachers of schools with more than 140 pupils are free of any class contact; no head teacher has more than 80% class contact.)

5

A primary activity-led staffing model was based on the following teaching requirements:

Curriculum time: 954 hours per year per teaching group, including 54 hours (six per cent) specifically for special education
 Curriculum maintenance: 498 hours per year per teaching group
 Pupil-specific activities: 16 hours per year per pupil
 School-specific activities: 1981 hours per school
 Teacher-specific activities: 40 hours per year per teacher

6

Staffing was based on:

nursery and reception	1:26
years 1-6	1:27
years 7-9	1:25.7
years 10-11	1:20
years 12-13	1:12

The decrease in years 7-9 was to allow for smaller class sizes in science and design/technology; and in years 10-11 to allow for the range of GCSE options occasioning smaller groups

Teacher contact time was set at:

KS1	0.93	(60% of 1265 hrs contracted time)
KS2	0.86	(61%)
KS3/4	0.8	(60%)

APPENDIX 2c

Some examples of outcomes of the models

1

Calculations based on 1993 figures in one LEA suggested AWPUs of:

Key Stage	0	1	2	3	4
	£2621	£2318	£2119	£2199	£2405

These are considerably in excess of the current national mean and, indeed, fall outside the upper point of the range of LEA figures.

2

A model constructed by a working party of the LEA's headteachers suggested a 50 per cent increase in primary sector staffing. Interestingly, an increase in secondary phase staffing was also, on a needs-based model, found to be desirable.

3

In this authority, the model suggested that an additional 446 fte teachers would be required for pupils up to and including year 7. Given available resources, adjustments had to be made to the factors determining the weighting (namely, an increase in class size and a reduction in curriculum protection), yielding a figure of 185 fte additional teachers. Further adjustments indicated that an additional 92 fte teachers were needed. The different versions produced by this LEA nicely exemplify the way that an activity-led staffing model can be varied, while maintaining the basic structure, to take account of contextual considerations.

4

Conclusions were that:

- the PTR should be fairly constant, though it might reduce for examination classes
- the overall contact ratio was less than 50 per cent but that actual school day contact ratio was 80 per cent for primary schools and 70 per cent for secondary schools
- funding should be more equally distributed. There should be additional funding as enhancement of primary budgets should not be at the expense of the secondary sector

5

The conclusions were similar to those in the previous example, namely that:

- units of resource should be the same for each age group and key stage unless there are compelling educational reasons for deviation
- replacing a historic costs budget with a needs-based one would redistribute the ASB
- resourcing for special educational and social needs should be kept separate and would not be included in the baseline funding
- average class size for years 2-9 should be 27; and reduce slightly to 25 for years 10 and 11. Class sizes of 15 for sixth form teaching were suggested. Different class sizes for different areas of the curriculum were not part of the recommendations; these were considered to be a matter for individual schools
- there appeared to be negligible difference in the workload involved in teaching the full curriculum to a primary class, and specialist teaching to a wide range of ages in the secondary sector. Thus the aim was to equalise contact ratios, albeit with a small differential to take account of the shorter primary school day. No contact was recommended for sixth form work on the grounds that students are rarely timetabled for 100 per cent of the week.
- the criterion for management time was the number of key stages managed rather than the number on roll: single key stage schools should receive less funding than those with more than one key stage, nursery pupils or year 12 and 13 pupils. A ceiling should be set on the largest secondary schools as 'the demands on management do not rise indefinitely with school size'. At the other

end of the scale, small primary schools should have a minimum of a 50 per cent (fte) head teacher

- the fact that there was a great variation in schools' use of support staff suggested that this was an area for school decision-making. There was no evidence to suggest differential funding other than to take account of inter-sector salary differences.

6

Various options were offered to apply the activity-led formula framework to the ASB. For example, in primary:

- class sizes of three above the recommended level for years 1-6, or
- teacher contact increased by 0.01, or
- decrease in AEN allocation by 25%

Decisions about which of these options were to be adopted were to be taken after consultation

APPENDIX 3

Local education authorities which had undertaken work on activity-led staffing at the time of the NFER research

Bedfordshire
Cambridgeshire
Cornwall
Devon
East Sussex
Essex
Hampshire
Hillingdon
Isle of Wight
Liverpool
Norfolk
Sheffield
Stockport



Comparative Costs Perspectives on Primary-Secondary Differences

Since 1988, debate about education funding has been propelled by the increased transparency of individual schools' finances, under local management of schools. Financial management, hitherto something largely confined to local authority officers and elected members, has become a necessary topic of study for all head teachers and school governing bodies.

This report contains the findings of the NFER Comparative Costs Project, which surveyed secondary and primary schools about resourcing needs, undertook case studies in individual schools and examined work in LEAs on activity-led staffing.

The Project demonstrated:

- a national trend, since 1979/80 of increasing unit costs in both the primary and secondary phases, with a greater increase in primary than in secondary
- substantial variations between LEAs in the scale of the difference between primary and secondary funding, and in measures taken to redress this
- a widespread acceptance that primary schools have a good case for a greater share of the education budget
- the development in an increasing number of LEAs of activity-led staffing models, which favour relative improvements in primary phase funding
- the increasing deployment of classroom assistants, especially in primary schools
- more time spent by secondary schools staff on assessment activities
- concern in primary schools about the purchase of consumables, and in secondary schools about the purchase of equipment.

There is no evidence at present that secondary schools are over-funded and, at the time of the research, there was little evidence that primary school staff wanted money to be diverted from the secondary sector to their schools - though attitudes may have hardened somewhat latterly. The report concludes that it is important to recognise that any changes in funding may have unexpected consequences if the different cultures of primary and secondary schools are not taken into account. It is certainly incumbent on those proposing change to clarify their goals beyond simply those of pursuing equity: the ramifications for higher achievement should be set out and considered carefully for both sectors.

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