

# **The Impact of Class Size on Teacher Workload**

**Report  
December 2002**

***John Atkins  
David Carter  
Mike Nichol***

## Contents

1	Executive Summary .....	3
2	Introduction .....	4
3	Outcomes of the discussions.....	6
4	Some conclusions.....	10
	Annex 1. Schools participating in the fieldwork .....	11

# 1 Executive Summary

Teachers' workload has been a constant theme of discussion throughout 2002, but no previous study has focussed – as this one does – on the relationship between teacher workload and class size. The fieldwork for this study was carried out in thirty schools, and in each school we talked with a group of teachers using a focussed set of questions aimed at identifying which workload tasks varied by class size and which did not.

Class sizes were partly determined by school funding and partly by school organisation: secondary schools, and some larger primary schools, were able to place pupils in “sets” by ability and ensure that the least able (and most diverse) pupils were taught in smaller groups. (This meant in turn that some of the smaller groups required the most planning effort.)

Teachers could not easily identify differences caused by class size in the amount of time they spent on planning, preparation, and assessment, but in discussion agreed that planning was largely independent of class size, assessment highly dependent on class size, with preparation somewhere in between. (There was however some confusion about the extent to which planning should be carried out for individual (non-SEN) pupils.)

Teachers also commented that management of behaviour could be more timeconsuming in larger classes.

The report concludes that reducing class size would have a mitigating effect on workload: the effect is more pronounced among teachers of older pupils, and within this group among teachers of arts and humanities subjects.

## 2 Introduction

### The background to this Report

Teachers' workload has been a constant theme of discussion throughout 2002. Submissions to the School Teachers' Review Body (STRB) from the professional associations, and research commissioned by the Department for Education and Skills (DFES) itself, have demonstrated the importance which all parties now place on meeting teachers' aspirations for a sustainable workload and reasonable work-life balance alongside adequate pay and other conditions of service.

Indeed, the authors of this Report have already carried out two studies within the last twelve months focussing on just this issue. Both, like this Report, were commissioned by the National Union of Teachers. The first report<sup>1</sup> argued for, and recommended, an entitlement to PPA<sup>2</sup> time within the teaching day for every teacher, while the second report<sup>3</sup> discussed the implications of this recommendation for teachers in practice, based on visits to and discussions with staff in thirty schools.

Both reports took as their starting point the workload and other pressures typically faced by teachers in schools in England and Wales. Neither report, however, set out to assess the way in which these workloads varied from school to school, or in particular the pressures that impacted on PPA time, and which themselves have the potential to make up the greatest variations in workload between teachers and between schools.

In particular, there was anecdotal evidence from the second of our two studies that differences in time spent on planning, preparation and assessment might have a role to play. Some, but not all of these differences, might be the result of differences in class size.

Accordingly, we were commissioned by the National Union of Teachers to carry out a further research project. The project was to have two distinct foci:

- the interplay between teachers' workload and the sizes of the classes they have to teach
- more generally, the factors influencing the amount of time teachers spend on PPA and how these might be mitigated.

We were asked to report on these two aspects separately. This is the first, class size report. Our parallel report<sup>4</sup> explores the more general PPA issues.

---

<sup>1</sup> "Teacher Professionalism and Workload: client side advice", November 2001.

<sup>2</sup> Planning, preparation, and assessment. This is the new term to replace the previous acronym (PPMR) used in the earlier reports.

<sup>3</sup> "Reducing Teachers' Workload – A Way Forward", April 2002.

<sup>4</sup> "The Impact of Planning, Preparation and Assessment on Teacher Workload: some contributory factors". December 2002.

The reports have been written to be read separately, and we have not sought to avoid duplication between them where this may help understanding.

### **The design of the study**

Like the last study we carried out for the NUT, this study is based on visits to thirty schools in England and Wales. Primary, secondary and special schools were included in the sample. At each school, we held an informal discussion with a cross-section of teachers to seek their views on the relationship between PPA, workload and class size. Discussions were held either at lunchtime or after school.

The questions used to facilitate discussion are listed in Box 1 below.

<b>Discussion questions</b>	
1	How long do you spend per week, on average, on PPA for each class you teach? What size are the class(es)?
2	Can you identify the additional planning, preparation and assessment which you have to carry out for the individual pupil, separately from the PPA that you carry out for the whole class collectively?
3	What tasks are involved? How would you break down the time between them?
4	If you teach more than one class, how does the time differ between them? Which tasks are affected? Is this a reflection of different class size, different age/level, different ability level or some other factor?
5	Does the subject of study make a difference? What is the difference, and which tasks are affected?
6	Do you regard the amount of time you currently spend on PPA as “good practice”? If not, would you like to increase or decrease it? Which tasks would get more or less time as a result? What are the constraints that prevent you from doing so?
7	Can you suggest any ways in which PPA tasks you currently undertake could be reduced? What, if anything, could be done to make your use of PPA time more efficient, and PPA more manageable? What “efficiency gain” might be possible (e.g. in time terms)? How might you use the time saved?
8	Does the size of the class(es) you teach affect your workload in any other way? [E.g. behaviour management, pastoral, parental contact, report, support staff?]

### **Box 1. Discussion questions for the school discussions**

A description of the schools who participated in the survey is given in Annex 1. We are most grateful to the headteachers and senior staff of the schools concerned for arranging our visits, and to the teachers who took part in the discussions.

### 3 Outcomes of the discussions

In this Section, we report on the outcomes of the discussions we held in our thirty schools.

#### **Class size and time spent on PPA**

Most schools in the sample ran with classes of around 28 to 30 pupils. This figure did not vary much between primary and secondary schools, or between subjects or years. It represented the target size at which headteachers and Governors could make most sense of the budget allocated to their schools. (Only the London schools in our sample, with their relatively higher funding, could aim to do better – 25 or so.)

Where classes were planned to be smaller than this, it was usually for a good reason. Either some form of “banding” was in operation and the group of pupils was of lesser ability, or Health and Safety issues were involved (e.g. for practical work). In both cases these smaller classes represented a “cost” that had to be met from larger classes elsewhere. However teachers interviewed were generally prepared to pay the cost of larger classes elsewhere if it meant that more difficult classes could be held to a minimum.<sup>5</sup>

In other instances – particularly smaller primary schools – small classes were the result of fluctuations in pupil numbers. The boundary between one and a half forms of entry and two forms of entry is a particularly difficult one to manage in a primary school: the school seems too big for mixed age classes yet for age cohorts of between 35 and 50 there seems no other solution, even when the KS1 class size limit does not apply. This is largely a planning issue for authorities, but does have implications for PPA, as we will see.

Within this largely homogeneous sample, it was difficult to pick up much variation by class size in the hours that teachers spent on PPA. The general explanation seems to be that the work required is limitless and teachers spend as much time as they can afford. There is no sense – particularly in secondary schools – of the work being finite, and taking a finite time to do: instead teachers spend all the time they can, before family tasks, other responsibilities or just plain tiredness takes over.

However, teachers did recognise that conceptually at any rate the links between class size and the three components of PPA – planning, preparation and assessment – were neither simple nor homogeneous.

#### *Planning*

*Prima facie*, planning might be thought to be a “whole class” activity. Planning a teaching session, like planning a lecture, appears on the face of it to be independent of the number of participants.

---

<sup>5</sup> Except in one case, where a secondary school had some y7 classes of 37 in order to reduce lower sets to 15. This was regarded as “overkill” by the teachers concerned.

However, matters are not quite this simple. Teachers commented that the time taken to plan a lesson, or set of lessons, varied considerably not according to the size of the class but according to the diversity of pupil ability and attainment in the class, and therefore the differentiation needed. This produces an effect that is at first counter-intuitive. Most schools who have the resources to do so arrange for the most diverse groups of pupils to be taught in smaller classes: typically these can be the less able pupils.<sup>6</sup>

Thus if there is a link between planning and class size it is usually that empirically teachers spend longer planning the work of their smaller classes.

### *Preparation*

It was difficult for some of the teachers in our fieldwork schools (and for us, when challenged) to make a clear distinction between planning and preparation. Inasmuch as we were jointly able to draw one, planning seems to refer to the overall purposes and objectives of a series of lessons while preparation involves getting together the actual, physical resources needed to deliver the session about to take place.

For most areas of study and most age groups, preparing the resources for a lesson was not believed to vary particularly by class size. Choosing from the resources available, and making them ready for pupils to use, was a finite task and it did not much matter how many pupils had to be prepared for.

There were however three particular exceptions to this generic principle. These were:

- that preparation of individual pupils' or group equipment for practical lessons was, as might be expected, proportionate to the number of pupils/groups involved. For science lessons (for instance), preparing the materials for a practical experiment could represent the lion's share of preparation time for the entire lesson
- for younger pupils, many more lessons are "practical" in this sense, and require preparation of materials for individual pupils. Even where lessons are not "practical", learning resources can still be needed on an individual basis and can be quite timeconsuming to prepare – laminating workcards was an example quoted. In these circumstances preparation time does indeed vary with class size
- where classes were differentiated into groups with differential learning objectives, proportionately greater preparation could be needed. Again this could result empirically on more time being spent preparing the classroom for a smaller but more differentiated class.

On the first two of these points, it is noticeable how the progressive reductions in the size of groups for "practical subjects" on Health and Safety grounds have considerably reduced the amount of preparation time that teachers (or their technicians) devote to practical sessions.

---

<sup>6</sup> Though pupils who have diverse needs through e.g. a range of first languages other than English are often taught in smaller classes too. There is also the diverse needs of the *more* able pupils (now known universally as the "G. & T.") to be considered.

## Assessment

Assessment (“marking and recording” in the former classification) was reported to be largely proportionate to the number of pupils in a class, as might be expected, and teachers commented on the psychological difference between picking up 24 books and picking up 30. Moreover, in a small class it was more likely to be possible to spend some time going through work with pupils present, which is both more effective for the pupils concerned and reduces the amount of “marking” that has to be done later.

The benefit of this to the teacher varied according to the age range taught and (for secondary teachers) the subject. Our parallel report (see page 4) explores this variation in more detail, but self-evidently those teachers with the heaviest marking loading (e.g. arts and humanities teachers in secondary schools) stand most to benefit from smaller classes.

However teachers with small classes did say they felt obliged to take rather more time over marking “because they had more time per pupil to do it”.

Moreover, there were (as might be expected) confounding factors related to pupil ability. Some teachers reported it took longer to mark the work of less able pupils, since more time needed to be spent in analysing what they had done and how they could improve it.<sup>7</sup> Again, many schools aim to group these pupils into smaller classes.

There is a similar issue around annual reports. The requirement to produce reports varies greatly by subject, so that the teacher of Music or RE (taught for 2 periods a week) may have twice as many reports to do as a teacher of Science or English (taught for 4 periods a week). Clearly class size impacts on the numbers of reports that teachers have to write, and most heavily on the small subject areas.

## Summary

It is now possible to see why – as reported above – teachers found it difficult to distinguish variations in PPA time according to the size of classes they teach. Although (other things being equal) smaller classes do reduce the assessment load on teachers, and also the time taken to prepare practical materials, there are at least two confounding factors in practice.

First, teachers’ experience of smaller classes often relate to less able pupils, for whom (as we have seen) the time to plan lessons and the time per pupil spent on assessment may both be greater. Secondly, teachers tend to feel that having fewer pupils in a class means that they can (and therefore *should*) spend longer over marking the work of each one.

This is perhaps one instance of a more general need to “train” teachers in how best to approach learning and teaching with a small class. Teachers are so accustomed to classes in the high twenties and low thirties that they may not immediately be aware of how best to turn to advantage classes smaller than these.

---

<sup>7</sup> Though this view was not universally held: in secondary arts/humanities subjects, for instance, the less able pupils typically produced shorter pieces of work.

## **Other effects of class size**

Our questioning also invited teachers to consider what the other effects of smaller or larger classes might be.

### *Pupil behaviour*

The need to be effective in managing pupils behaviour increases for older pupils, and is also seen as greater for pupils of lower ability. However these factors being equal the more pupils one has in a class the more often one of them is statistically likely to misbehave, and therefore the more time is taken up with behaviour management.

In addition to this purely statistical argument, there are also a number of second order effects. For older pupils in particular, having more bodies crammed into a smaller classroom could quickly exhaust the space available, and bring pupils into closer physical proximity than is otherwise desirable. In overcrowded conditions, behaviour is likely to worsen anyway.

And (particularly in primary schools) the style of teaching necessarily changed as the class size increased, away from small group work towards more whole class activity. This might take longer to prepare; it might also be necessary to spend more time on planning and preparation in order to hold the class better “under control” and minimise the likelihood of poor behaviour.

### *Wider issues*

As teachers become more involved in the out-of-class life of their pupils, then having more pupils means having more of a load. Thus accounting to parents for pupils’ progress takes longer when there are more parents to account to. Even for parents’ evenings, 30 pupils’ parents/guardians seem to take a lot longer to see than 26. Similarly any involvement with other agencies on pupil welfare or child protection will come round more often if one has more pupils in one’s charge.

## 4 Class size and workload: some conclusions

The interviews and discussions that made up the fieldwork for this project certainly confirmed that there is a relationship between class size and teacher workload. As we have seen, the time taken on many PPA tasks – particularly marking – relates almost directly to the number of pupils in a class, and reducing class size would reduce workloads accordingly.

This is particularly noticeable for pupils in the later years of primary education, and for teachers teaching arts subjects in secondary education. Indeed, for these subjects marking is the major task outside actually teaching the lesson itself, and *any* way of reducing the number of pieces of extended composition that a secondary English specialist has to mark in the week will reduce his or her workload.

*Quantifying* the reduction in PPA that would be associated with a reduction in class size is however highly problematic. It is difficult because many teachers' experience of small classes is related to classes that were small *for a purpose*, usually to reflect the additional educational needs of pupils. This is particularly true of secondary schools.

The more general conclusion reached by teachers, however, is that smaller classes are of most direct benefit to the *pupil*. Smaller classes enable teachers to teach in a different, more effective way and to spend proportionately more time with each pupil in their charge.

In this context, it is relevant to note that the report of the PISA project commissioned by the OECD concludes that "Differences in student-teaching staff ratios ranging from 10 to 25 are associated with relatively small effects [on the quality of learning]. However, as the student-teaching staff ratio rises above 25 there is a continuous decline in school performance..."<sup>8</sup>

So in summary the teachers in our fieldwork sample strongly support any progress that can be made in reducing class size. Their immediate arguments for doing so, however, are more likely to revolve around improvements that smaller classes bring for pupils (and thus indirectly for those teachers who teach them) rather than any direct reduction in PPA time. Any reductions in PPA time that smaller classes do bring are most likely – as we have seen – to be re-invested in supporting pupils' learning in any case.

---

<sup>8</sup> OECD (2001) "Knowledge and Skills for Life: First Reports from PISA 2000". The quotation is from page 2 of the electronic reference <http://www.pisa.oecd.org/knowledge/chap8/c3.htm>.

**Schools participating in the fieldwork**

By agreement, the identities of the schools visited in the study were to be kept confidential. However the following brief anonymised details of schools visited will give some idea of the scope of the work.

- 5 - 11 school, Eastern
- 5 - 11 school, London
- 5 - 11 school, Midlands
- 5 - 11 school, Midlands
- 5 - 11 school, North West
- 5 - 11 school, Wales
- 5 - 11 school, Wales
- 5 - 11 school, Wales
- 5 - 11 school, Yorkshire
- 5 - 11 school, Yorkshire
- 6 - 11 school, South East
- 7 - 13 school, Eastern
- 9 - 13 school, South West
- 8 - 11 school, North East
- 8 - 11 school, North East
- 11 - 16 school, Midlands
- 11 - 16 school, North East
- 11 - 16 school, North West
- 11 - 16 school, South East
- 11 - 16 school, South West
- 11 - 16 school, Wales
- 11 - 16 school, Wales
- 11 - 18 school, Yorkshire
- Special school, North East.