Deployment and Impact of Support Staff in Schools

The Impact of Support Staff in Schools
(Results from Strand 2, Wave 2)

Peter Blatchford, Paul Bassett, Penelope Brown, Maria Koutsoubou, Clare Martin, Anthony Russell and Rob Webster with Christine Rubie-Davies

Institute of Education, University of London

department for
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Chapter 1: Introduction

This study was designed to obtain up to date and reliable data on the deployment and characteristics of support staff and the impact of support staff on pupil outcomes and teacher workloads. The study covered schools in England and Wales. It involved large scale surveys (Strand 1), followed by a multi-method and multi informant approach (Strand 2). It provided detailed baseline data by which to assess change and progress over time. It sought to understand the processes in schools which lead to the effective use of support staff. The DISS project was funded by the Department for Children, Schools and Families (DCSF) and Welsh Assembly Government (WAG).

1.1 Introduction to the project

In earlier reports describing the Strand 1 Wave 1 and Wave 2 surveys (Blatchford, Bassett, Brown, Martin, Russell, Webster and Haywood, 2006; Blatchford, Bassett, Brown, Martin, Russell and Webster, 2007a) we detailed the main reasons for the recent growth in the range and number of support staff in schools. In summary, these included the greater freedoms concerning school budgets for heads and governors, arising out of the 1988 Education Reform Act and Local Management of Schools; the delegation of funding for Special Educational Needs (SEN), accompanied by increased provision of learning support assistants for pupils with statements of special educational needs; the introduction of the national literacy and numeracy strategies; and recent Government commitments to and investment in increased numbers of full-time equivalent support staff (FTE), including teaching assistants.

A major context for policy and resourcing involving support staff in schools was the introduction in January 2003 by the Government, local Government employers and the majority of school workforce unions of the National Agreement: 'Raising Standards and Tackling Workload' (DfES, 2003a)[1]. The National Agreement (NA) set out a number of measures designed to raise pupil standards, tackle teacher workload including a concerted attack on unnecessary paperwork and bureaucracy, and create new support staff roles.

1.2 Aims of the research

Despite the large increase in support staff it is recognised that there were significant gaps in knowledge about many aspects of support staff in schools. There is not space here to provide a review of previous research other than to say that it provides only limited information on the deployment and impact of support staff in schools, and on the processes in schools through which impact is maximised or inhibited. This study was designed to help fill these gaps. The two main aims of the project were:

- To provide an accurate, systematic and representative description of the types of support staff in school, and their **characteristics and deployment** in schools, and how these change over time; and

- To assess the **impact or effect of support staff** on teaching and learning and management and administration in schools, and how this changes over time.

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[1] [1]Although the study was carried out during the period the National Agreement was introduced it was not within the study's remit to directly address the impact of these reforms, or to assess how far participating schools had completed NA contractual changes or remodelling changes; the focus was on the deployment and impact of support staff.

Strand 1 addressed the first aim and provided comprehensive and reliable information on support staff in schools in England and Wales. It involved three biennial questionnaire surveys - the Main School Questionnaire (MSQ), the Support Staff Questionnaire (SSQ), and the Teacher Questionnaire (TQ) - which aimed to provide a systematic account of basic information on support staff in schools and changes over a key five year period (2003-8). Information collected from Strand 1 addresses characteristics and deployment of support staff, including details of all support staff in schools, numbers and type, age, gender, ethnicity, salary levels, experience, qualifications, turnover, hours and duties, deployment in schools, how they support teaching and learning, and training. Information was also collected to provide a detailed account of staff perceptions of their job satisfaction and conditions of employment. Results from Strand 1 Wave 1 are provided in Blatchford et al. (2006), results from Strand 1 Wave 2 in Blatchford et al. (2007a) and results from Waves 1-3 together can be found in Blatchford, Bassett, Brown, Martin, Russell and Webster (2009).

A main aim of Strand 2 was to address the second aim, i.e., the impact of support staff. This is one of the most important yet problematic aspects of research in this area. Lee (2002) concluded that "relatively few studies provided good evidence on which to base conclusions about impact." There are a number of limitations to previous studies that make it difficult to draw clear conclusions. Evidence is patchy with claims often based on anecdotal and informal comments. In particular, there are huge challenges for research seeking to measure effects of TAs on pupil outcomes in the context of normal school conditions. One limitation of the analyses of the impact of support staff, conducted as part of the earlier Class Size and Pupil Adult Ratio (CSPAR) KS2 study (Blatchford, Russell, Bassett, Brown, and Martin, 2007b), was that relationships between TAs and outcomes were examined for the whole class. It was recognised that future research in this area would need to target more precisely the connections between TAs and the specific pupils they support, though this would not be an easy task. One would also need to cover cognitive and non-cognitive areas, that is, address the impact of TAs in terms of pupil learning and attainment, but also in relation to aspects such as confidence, concentration, working independently and the ability to complete assigned work, as well as interactions between teachers and pupils in the classroom. There is only relatively anecdotal evidence on these dimensions, and so we also wanted to collect systematic evidence in order to provide a more comprehensive and reliable account of the effect of TAs.

In the Strand 2 Wave 1 report (Blatchford, Bassett, Brown, Martin, Russell and Webster, with Babayigit and Haywood, 2008) we addressed deployment and some aspects of impact. We also drew some data from aspects of Strand 1. Deployment was addressed in terms of research tools such as timelogs completed by support staff and data from systematic observations. Impact was addressed in terms of teacher workloads and teacher views on the effect of support staff on their job satisfaction and levels of stress; teacher and support staff interactions with pupils (from systematic observations of individual attention, classroom control, amount of teaching and amount of interaction with teachers); and effects on pupils were addressed in terms of teacher views about effects on their behaviour and learning and effects on teacher ratings of their positive approaches to learning (motivation, engagement, etc.).

This report extends information published in the Strand 2 Wave 1 report by adding data on the impact of support staff stemming from Strand 2 Wave 2. It incorporates results from Strand 2 Wave 1 where these are also collected at Wave 2 in order that trends across the two waves can be assessed. It does not repeat results that were only collected at Strand 2 Wave 1, most notably we do not repeat description of results from the systematic observation study, which provided a numerical picture of pupil and TA behaviour (see Blatchford et al., 2008 to get a full account). Some results on impact e.g., teacher ratings and open-ended answers from the TQ

also come from Strand 1. The report also seeks to contextualise the results on impact by drawing on the results from the Strand 2 Wave 2 case studies, which provide valuable information on the preparedness, deployment and practice of support staff.

A main focus of Strand 2 of the DISS project was with the impact of classroom based support staff in everyday classrooms. In the DISS classification of different categories of support staff, such staff were called 'TA equivalent' staff though, in line with many other studies, the generic term 'Teaching Assistant' (TA) is sometimes used here to cover similar classroom based post titles which engage in similar activities. This study is not restricted to pupils with SEN, on School Action etc., but covers all pupils in mainstream classes who receive support.

The study has wide significance in the context of concern with the lack of progress made by some pupils in school. Classroom based support staff may offer huge potential to help teachers and pupils but given that lower attaining pupils are more likely to be given extra support in schools it is vital that this support is well organised and effective.

The research is timely because it comes at a time when changes after the NA have been implemented and when the WAMG (Workforce Agreement Monitoring Group) and other bodies, as well as schools and local authorities (LAs), now need to address policy and practice regarding the successful deployment of TAs.

In this report we use large scale analyses to address the impact of support staff on two main outcomes:

1. On **teachers and teaching** i.e. teacher job satisfaction, stress and workloads (based on teacher views); a systematic breakdown of activities passed from teachers to support staff (TQ), and teacher views on effects of support staff on their teaching.

2. On **pupils** in terms of the effect of support staff on pupil learning and behaviour (from teacher views), positive approaches to learning in terms of confidence, motivation and ability to work independently and complete assigned work (from teacher ratings); and pupils' academic attainment in terms of the effect of the amount of support they receive on end of year attainment, controlling for other factors likely to confound this relationship, e.g. prior attainment and SEN status. In this report we report results on effects on attainment from Wave 1 and also from the larger scale replication study in Wave 2.

We also, through **case studies** as part of Strand 2 Wave 2, provide an interpretive and grounded analysis of factors relating to support staff deployment and impact in schools, focusing on pupil and / or class-based support staff.

1.3 Impact of support staff on teachers and teaching

Concern about recruitment and retention in the teaching profession was a main reason for the NA and the proposal that support staff should release teachers from routine and clerical tasks so teachers could focus on core teaching tasks. Findings from Waves 1 and 2 of Strand 1 suggested that support staff had indeed had a positive effect. They showed that half of teachers said that support staff had led to a decrease in their workload (Blatchford et al., 2007a). At Wave 1 there had been very little transfer of administrative and routine tasks from teachers, but by Wave 2 most tasks had been transferred. Administrative staff were most likely to perform tasks previously undertaken by teachers. Support staff had a positive effect on teachers' level of job satisfaction. At Wave 2 two thirds said that there had been an increase in satisfaction, and only

5% said that support staff had decreased their job satisfaction. There was also a positive view on the effect of support staff on teacher stress. Two thirds of teachers said that support staff had led to a decrease in stress.

Some studies also paint a largely positive picture of the impact of support staff on teaching (e.g., Mortimore and Mortimore, with Thomas, Cairns and Taggart, 1992; HMI, 2001; Ofsted, 2002) though for the most part, evidence is based on teachers' reports. Results from the CSPAR project found that teachers were largely positive about the contribution of TAs in schools (Blatchford et al., 2007b). This was seen in terms of: increased attention and support for learning (e.g., more one to one attention, support for pupils with SEN and support for teaching of literacy); increased teaching effectiveness (e.g., in terms of productive group work, productive creative and practical activities, lesson delivery and curriculum coverage); effective classroom management; and effects on children's learning outcomes.

In this report we address effects on teachers and teaching in a more extensive, multi-method and systematic way. We present full results from the three waves of questionnaires returned by teachers and we take the opportunity to summarise results across the three waves. We address the effects of support staff on teacher's workloads, job satisfaction and levels of stress, and also on the way support staff have affected their teaching. In order to provide as complete a summing up of results on impact as possible, in the discussion we also take on board results from the extensive systematic observation study conducted as part of Strand 2 Wave 1 (Blatchford et al, 2008).

Results on impact on teachers and teaching are presented in Chapter 3.

1.4 Impact on pupil behaviour, attitudes to learning and academic attainment

Effects on teacher workloads, job satisfaction, stress and teaching (by the teacher) can be seen as evidence that support staff have an *indirect* effect on pupil standards. But the Government have also proposed that support staff should have a *direct* impact on pupil attainment, through overtly pedagogical input (DfES, 2002). In line with this aim the DISS project has already shown conclusively, across a range of sources of data (e.g., timelogs and systematic observations), that classroom based support staff spend much of their time in a direct pedagogical role, supporting and interacting with pupils, and this exceeds time assisting the teacher or the school (Blatchford et al., 2007a).

In this report we present results from the Strand 1 Waves 1-3 TQ on teachers' views on the impact of support staff on pupil behaviour and learning. For completion, we also summarise, in the discussion section, results already published from the Strand 2 Wave 1 systematic observations (Blatchford et al, 2008), on the effect of TAs on pupils' classroom behaviour.

It would seem to follow from the reports of teachers in Strand 1 so far that support staff would help pupils become more confident, engaged, motivated, and able to follow instructions. We examined this claim systematically in Strand 2 Wave 1 and Wave 2 by examining the effects of support on what we called 'positive approaches to learning'. This was done through teacher ratings (collected at the end of the school year) of the degree of change in a number of key areas.

When it comes to effects of support staff on pupils' academic progress and learning, there is little systematic research (Howes, Farrell, Kaplan and Moss, 2003). Evidence from studies that have addressed the effects of TAs on pupil outcomes in a more systematic way, e.g., by a numerical analysis of connections between support staff provision and pupil attainment test scores, are not conclusive. Schlapp, Davidson and Wilson (2003) concluded that they could not say whether a recent Scottish initiative to increase support staff in schools had led to improvement in pupil outcomes. A systematic review (Howes et al, 2003) identified the CSPAR KS1 study (Blatchford, Bassett, Goldstein and Martin, 2003) as one of only a very few studies of sufficiently high quality to warrant inclusion, and this study found no appreciable effect of the presence of TAs in classrooms on pupils' academic progress in primary schools. As we have seen, the study was limited, however, in only examining effects at the level of the whole class, rather than the individual supported pupil. Other studies report similar results; for example, Finn, Gerber, Farber and Achilles (2000), on the basis of data from the often-cited Tennessee STAR project, found that there was no compensatory effect of having extra staff in larger ('regular') classes, a result similar to that of Reynolds and Muijs (2003). But a main limitation of research in this field, and a key reason for the study reported here, is the lack of rigorous empirical studies of the impact of support staff on pupils. In this report we therefore report on findings from a systematic analysis of the impact of the amount of extra support from TAs on pupils' academic progress. This was first conducted at Wave 1 of Strand 2 and then again on a larger sample in Strand 2 Wave 2.

Results on impact on pupils are presented in Chapter 4.

1.5 The Wider Pedagogical Role of support staff: Strand 2 Wave 2 case studies

The findings from Strand 1 and Strand 2 Wave 1 suggested the value of more detailed study of what we call the 'Wider Pedagogical Role' of support staff. This situates the interactions between support staff and pupils and teachers into a wider context, with particular attention to the support staff involvement in lessons and across the school day. As we shall see, this was approached by careful attention to the preparation of support staff for their classroom role, the nature of decisions about their deployment and the way deployment works out in reality, and fine-grained detail on the activities and interactions of support staff. A nuanced approach was seen as essential to contextualising and explaining findings on the impact of support staff.

This was approached by extending the Strand 2 Wave 1 case study approach and focusing on classroom based support staff in particular. The resulting case studies included structured observations of teacher and TA activity. Qualitative classroom observations informed semi-structured interviews with school staff. The Strand 2 Wave 2 case studies went still further, in terms of collecting fine-grained data on adult-pupil dialogue that was essential to understanding the quality, rather than the quantity, of support staff-pupil interactions.

Results from the Strand 2 Wave 2 case studies are presented in Chapter 5.

Chapter 2: Methodology

As described above, in this report we describe results from Strand 2 Wave 2. Some selected data from Strand 1 Wave 1 are also included and methods are described below.

2.1 Research design

Strand 2 used a multi-method approach, combining quantitative and qualitative methods, to obtain a detailed and integrated account of the deployment and impact of support staff. It combined numerical data on connections with pupil and teacher outcomes, with qualitative, interpretive analysis of processes in schools connected to the effective deployment of support staff.

Strand 2 Wave 1 took place in 2005/06 and had three main components: the first wave of the Main Pupil Support Survey (MPSS), a systematic observation component and a case study component. It focused on pupils in Years 1, 3, 7 and 10. The overall MPSS took place in a sample of 76 schools. Some of the MPSS schools also took part in case study visits, whilst others took part in systematic observation visits. Some schools had both case study and systematic observation visits. Figure 2.1 describes the numbers of schools in each component.

Figure.2.1 - Number of schools in Strand 2 Wave 1 samples
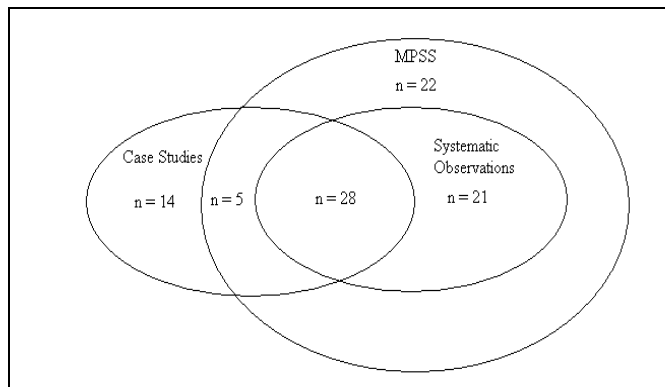
Strand 2 Wave 2 took place in 2007/08 and had two components: The Main Pupil Support Survey took place in a sample of 77 schools and involved an increased sample of pupils (n=5672). It focused on pupils in Years 2, 6 and 9. The reason for the change in year groups was due to the timing of the study, with the need to obtain end of year data relatively quickly. Experience in Wave 1 had shown the possible lengthy delays in getting information back from schools, and so it was decided to use schools where the end of year attainment coincided with the end of Key Stage, enabling data to be obtained from DCSF and WAG rather than from schools, with the additional benefit of reducing burdens on schools. The second component involved case studies. While the Wave 1 case studies focused on the school, the Wave 2 case studies focused specifically on classroom based support staff and also included transcripts of the interactions between teachers and pupils and TAs and pupils in the same classrooms.

2.2 Main Pupil Support Study (MPSS)

The main purpose of the MPSS was to address through systematic, quantitative study whether support provided for pupils affected pupil attitudes to learning and attainment, controlling for other possibly confounding factors (such as pupil prior attainment). Owing to the difficulty of dealing with attainment data from special schools, it was decided not to include them in this analysis.

Details of year groups and data collection for Wave 1 and 2 are shown in Table 2.1.

Table 2.1 - MPSS sample and data collection: number of pupils (number of schools) per year group

	UPN / Pupil Details	SENCO Form (e.g. amount of support)	Teacher Ratings of Support	Teacher Ratings of PAL	Start of Year Attainment	End of Year Attainment
Wave 1						
Year 1	751 (33)	260 (27)	363 (18)	305 (18)	496 (20)	500 (31)
Year 3	693 (22)	227 (28)	285 (19)	193 (19)	470 (23)	579 (33)
Year 7	1821 (26)	154 (17)	220 (19)	197 (19)	1701 (30)	934 (21)
Year 10	1931 (27)	180 (18)	290 (22)	206 (22)	1772 (32)	515 (22)
Wave 2						
Year 2	1586 (51)	-	1036 (38)	289 (36)	1261 (44)	1319 (51)
Year 6	1513 (47)	-	1148 (40)	299 (39)	1317 (42)	1399 (47)
Year 9	2573 (15)	-	1374 (14)	375 (14)	2258 (14)	2332 (15)

2.2.1 Information on pupils

To ensure that the effect of the level of support on the Positive Approaches to Learning (PAL)[2] and attainment scores was correctly evaluated, it was necessary to control for a number of other factors that might influence pupil PAL and attainment. Therefore, data on pupil characteristics at Waves 1 and 2 was obtained through the School Census (formerly PLASC - Pupil Level Annual School Census) supplemented by information from schools. Different analyses controlled for a different combination of variables, and these are described in more detail for each analysis later in the report.

A summary of the characteristics of the pupils in the study is given in Table 2.2. As seen in Table 2.1, there were pupils within the sample for whom some basic information was held, but without a measure of additional support. As only pupils with a measure of additional support were included in the analyses, the figures in Table 2.2 are restricted only to pupils with a measure of support.

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[2] See Section 2.2.4

Table 2.2 - Characteristics of pupils included in the analyses for Waves 1 and 2

Characteristic	Wave 1				Wave 2		
	Year 1	Year 3	Year 7	Year 10	Year 2	Year 6	Year 9
Number	363	285	220	290	1036	1148	1374
Male gender	53%	55%	59%	53%	54%	52%	45%
SEN [*]	31%	31%	40%	49%	23%	23%	22%
EAL [**]	-	16%	11%	6%	9%	14%	2%
FSM [***]	-	23%	28%	16%	13%	15%	11%
White Ethnicity	-	77%	86%	91%	91%	83%	96%

(*) Pupils with any Special Education Needs (School Action, School Action+ or Statement)
(**) English as an Additional Language. Information not available for schools in Wales
(***) Eligible for Free School Meals

It can be seen that the percentages of pupils with SEN (includes School Action and School Action+) is high for Wave 1, relative to Wave 2, largely because the Wave 1 MPSS was restricted to a sub sample of pupils in each class, around half of whom would have been supported, and therefore with a correspondingly high percentage with SEN. The percentage of pupils with SEN fell by Wave 2 because all pupils in the class were included. Comparison with the national picture (figures from the DCSF, January 2009[3], and the WAG, 2008[4]) indicates that the percentage of pupils with SEN is higher than the national average (8% for England; 19% for Wales) though the figures are not exactly comparable (e.g., the figure for England does not include pupils with School Action; the figure for Wales includes all statemented and non-statemented pupils with SEN). In any case, the DISS study is focused on classroom support and so is likely to include more pupils with needs, allocated such support. There were also differences between year groups in terms of the other characteristics (EAL, FSM and ethnicity) but, as explained below, these (and also SEN) were taken into account when analysing results, e.g. when analysing the relationship between support and academic progress. The percentage of pupils with EAL and FSM were roughly similar to the national figures (13% and 15%), though the DISS sample had more pupils in the white ethnicity group (national figure 81%).

2.2.2 Amount of support

In Wave 1 five different measures of the level of additional support were collected, one general teacher rating of the amount of support and four additional measures from the systematic observation study, whilst at Wave 2 only the general teacher rating was used. As we show in the results section, the general rating led to the strongest and most clear set of results.

a. Hours support - Teacher ratings (Waves 1 and 2)

The first, main measure was teacher estimates of the amount of support received, expressed as a percentage of time. The actual wording was: 'Please tick the percentage of time *additional* support was provided for this pupil in **English** lessons. This is *additional* support provided by a member of support staff e.g. TA, LSA, etc., *not by yourself or another teacher*. The support may

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[3] DCSF. (2009) Statistical First Release (SFR 08/2009): Schools, pupils, and their characteristics, January 2009 (provisional)
[4] Welsh Assembly Govt (2008) Schools in Wales: General Statistics 2008

be in the class, withdrawn from the class, small group or 1-1'. They were given six categories denoting the amount of support: 0%, 1-10%, 11-25%, 26-50%, 51-75%, and 75+.

In a small number of cases in Wave 1 this information was not available. In order to increase the sample size it was replaced by estimates given by SENCOs (Special Educational Needs Coordinators) (secondary only), or support staff themselves, of the amount of additional support expressed in hours and minutes for each pupil for mathematics, English, science and Welsh. These were collected at the time of the systematic observation visits. At Wave 2, only the teacher estimate was used, though as we shall see this was the most general and strongest measure.

Due to the relatively small sample size in Wave 1, for the purposes of analysis, three measures of the amount of support were used instead of six. These were a low support (supported 0-10% of time), medium support (11-50%) and high support (over 50% of time supported). Due to the increased sample size at Wave 2, five categories of support were used for the analysis (0%, 1-10%, 11-25%, 26-50%, 51%+).

b) Level of Support - Systematic Observations (Wave 1)

In addition to the main measure, there were four other measures of the amount of additional support received by a pupil, taken from the systematic observation data:

1. ***Support staff presence***: the percentage of time in which a member of support staff was present in the classroom during observations

2. ***Support staff proximity***: when 'Pupil Supervision' was either one-to-one or group, and a member of support staff was doing the supervising.

3. ***Support staff interaction***: when the pupil was interacting with an adult and that adult was a member of support staff.

4. ***Support staff attention***: when there was support staff interaction, and in addition the pupil was the focus of the adult's attention.

It can be seen that these measures of support represent a hierarchy with different levels closer or further away from the pupil. They range from a simple tally of hours of support; through the presence of support staff in the classroom, on a moment by moment basis; through proximity to the pupil in a one to one or small group context; to direct interaction between support staff and pupil; and finally to individual attention toward the pupil.

For each pupil, the percentage of observations in which each of the three outcome measures occurred was used. An examination of the data indicated that the majority of these measures had a highly skewed distribution. Therefore, for the majority of analyses, pupils were divided into two groups, those with high occurrence of each measure, and those with a lower occurrence.

2.2.3 Pupil outcomes

One reason for investment in support staff, e.g., as expressed in the NA, was the expectation of benefits in terms of raising levels of pupil attainment. The DISS project addressed support received by pupils in relation to pupil outcomes such as behaviour and motivation to learn. Effects on different outcomes may vary. It is interesting that Schlapp et al. (2003) identify the

benefits of classroom assistants more in terms of the range of learning experiences provided and effects on pupil motivation, confidence and self esteem, and found less effect on pupil behaviour. In line with what has been said above, however, much research is based on the views of teachers rather than objective measures of pupil outcomes. It seemed to us important to set out a model of the kinds of pupil 'outcomes' thought to be connected to support staff, and to then make use of reliable measures of the dimensions identified (see 2.2.4 and 2.2.5). This could then be complemented by more qualitative analysis of the views of teachers, support staff, and pupils.

We made use of a model used in the evaluation of effective group work in classrooms (SPRinG) project, one of the ESRC Teaching and Learning Research Programme Phase 11 projects, (see Blatchford, Galton, Kutnick and Baines, 2005). The SPRinG project was designed with a three component model of expected pupil outcomes. These were, first, learning and attainment outcomes; second, pupils' motivation and attitudes to work; and third, interactive and dialogic features of classroom engagement and interaction (addressed through systematic observations in Strand 2 Wave 1). To this can be added pupils' attentiveness in class. In this report we examine support in relation to the first two types of outcomes (classroom engagement and attentiveness were addressed in Blatchford et al., 2008).

2.2.4 Pupil Positive Approaches to Learning (PAL)

Teacher completed rating scales were developed, based on previous research in the CSPAR and SPRinG projects. Use was made of an amended version of the Pupil Behaviour Rating Scale, as developed in the CSPAR (Blatchford, Edmonds and Martin, 2003). This is a teacher completed instrument that in its most complete version comprised over 50 items rated on a three-point scale ('certainly applies to this child', 'applies sometimes to this child', 'does not apply to this child'). Scores on conceptually and empirically linked items that make up a set of factors were then added. One problem with this instrument was the length of time taken to complete forms for each pupil. For the purposes of the DISS project the form was therefore adapted to produce one item and scale for each dimension. Dimensions were representative of those previously developed, which had proven reliability. There were eight attitudes to learning dimensions: distractibility, task confidence, motivation, disruptiveness, independence, relationships with other pupils, completion of assigned work, and follows instructions from adults. Teachers were asked after half term in the summer term (i.e., near the end of the school year) to describe change over the year on each of the dimensions in terms of a scale: 1. improved over the year; 2. stayed the same; and 3. deteriorated over the year. More details of the methods and analysis are given in the results section below.

2.2.5 Numerical data on academic attainment

The effect of support staff on pupils' attainment was assessed in relation to progress over the school year. Progress was assessed by analysing effects on end of year attainment controlling for start of year scores. For Wave 1, start of year attainment scores came from Foundation Stage Profiles (for start of Year 1) or end of previous year Key Stage test scores (commonly called SATs) (for Year 3, 7 and 10). Attainment scores at the end of year came from assessments already being used in schools and for the most part were teacher rated National Curriculum levels, but for Year 10 were predicted GCSE grades. Throughout this report we use the word 'attainment' but it should be noted that a strength of this study is that is was longitudinal, and because it collected information on prior attainment (at the end of the previous school year), the analyses effectively addressed pupils' progress over the school year.

Wave 2 involved Years 2, 6 and 9. Beginning of each year (baseline) scores came from assessments at the end of the previous school year. Where possible these data came from optional tests, but if they were not available then teacher assessments were used. Again the data collected was in terms of National Curriculum levels which were subsequently converted to a numerical score. Pupil attainment at the end of the school year came from end of year Key Stage tests and took a variety of forms. In Year 2, attainment took the form of National Curriculum levels, which were reported as a main level and a sublevel (split into three categories A, B and C: e.g. 1C, 2B, etc) for English schools. For Wales, only the main numeric levels were available (e.g. 1, 2), and for Welsh data it was assumed that each pupil took the middle sublevel within each category. The main National Curriculum levels were also used in Year 6, as were fine grade levels which gave a greater distinction between pupils. Raw attainment scores were also analysed in Year 6. End of year attainment in Year 9 took the form of National Curriculum levels for all subjects, and also raw scores for English only.

Using guidelines from the DCSF, National Curriculum levels were converted into a numerical score. One whole level represents 6 points on this numerical scale, whilst a sublevel represents 2 points on this numerical scale. The exception was for Year 10 in Wave 1, where the predicted GCSE scores were also converted to numerical scores, with one point representing one GCSE grade.

2.2.6 Statistical methods

As discussed above, the analyses examined the extent to which the amount of support was related to end of year attainment controlling for factors that might be expected to confound the relationship e.g., prior attainment and SEN status. Multilevel regression models were required due to the hierarchical nature of the data. Two-level models were used with pupils contained within schools.

The effect of support on attitudes to learning and pupil attainment was examined by a succession of statistical models, the first of which involved no adjustments for other variables, the last of which included controlling for all variables. It is quite likely that the provision of extra support for pupils will be based on their prior attainment and their SEN status and so we controlled for these in the analysis. As we have said, controlling for prior attainment means that we were effectively looking at relationships with the relative progress in attainment made by pupils, a more useful measure than attainment only. More details are given when results are discussed (4.2 and 4.3).

2.3 Teachers' views on pupil learning and behaviour, teaching, and level of job satisfaction, stress and workload and transfer of tasks to support staff

Additional data are presented in this report from several aspects of Strand 1 questionnaires that address the impact of support staff.

As part of Strand 1, the Teacher Questionnaire (TQ) contained a number of questions about support staff who had supported the teacher during the last week. Teachers were asked open questions on how support staff had affected pupil learning and behaviour, and their (i.e., the teacher's) teaching, if at all, and closed questions addressing the extent to which this member of support staff had affected the teacher's level of job satisfaction, stress and workload (on three five point scales: large decrease, slight decrease, no change, slight increase, large increase). Teachers were also asked to comment on the answer given to the closed response to effects on job satisfaction, level of stress and workload.

At Waves 1 and 2, questionnaires were sent to four teachers in each school who responded to the MSQ (via the contact person appointed by the school). At Wave 3 there was concern at overburdening schools in the MPSS and so the TQ was sent to a random selection of schools omitting those who had indicated that they were interested in taking part in the MPSS. For primary schools, two questionnaires were sent to teachers from each key stage. For secondary schools, questionnaires were sent to two core subject teachers (English (and Welsh for Welsh schools), mathematics or science) and two non-core subject teachers (all other subjects). For special schools, questionnaires were sent to any four teachers. Information on specific teachers working within each school was unknown, so the decision as to exactly which teachers received the questionnaires was made by each individual school. The exact sample varied between the three waves but at each wave the initial sample consisted of around 8,000 questionnaires sent to about 2,000 schools. The response rate declined over the course of the study from 1824 (20%), 1297 (16%) to 970 (12%) at Waves 1, 2 and 3 respectively. The lower response rate at Wave 3 may be partly because schools which had not been sent the MSQ would therefore not be familiar with, or perhaps committed to, the study.

Impact on routine administrative and clerical tasks from TQ

A more detailed method of assessing the impact of support staff on teachers was to see how many of the routine administrative and clerical tasks had been transferred from teachers, especially given that Phase 1 of the National Agreement required that these tasks be transferred to support staff from September 2003. In the TQ at each wave in Strand 1 teachers were presented with a list of 26[5] routine and clerical tasks and asked to say for each task which they still performed themselves, which were performed by other staff, and to also give the post title of the staff member now carrying out the tasks.

2.4 Strand 2 Wave 2 case studies

The case studies added a qualitative element to the DISS project, to complement data from surveys and systematic observations in classrooms. This report presents findings from case study visits carried out in English and Welsh schools as part of Strand 2 Wave 2 (2007/8) (Wave 1 was carried out between June 2005 and July 2006).

The main purpose of the earlier Strand 2 Wave 1 case studies (reported in Blatchford et al, 2008) was to provide an interpretive and grounded analysis of factors relating to support staff deployment and impact in schools. Selected aspects of support staff deployment, classroom learning and school management were defined on the basis of pilot visits, and in relation to main headings from other methods of data collection, and these provided data which was organised around a set of key themes. The case studies focused on the school rather than individual classrooms, and on all support staff in schools, not just those with a direct role in relation to pupil learning. There were 47 schools in all in Strand 2 Wave 1, 21 primary, 14 special and 12 secondary schools in England and Wales. Classroom observations were followed up by nearly 500 interviews with teachers, support staff and a small sample of pupils in these schools.

The design of the Strand 2 Wave 2 case studies was informed by Wave 1 findings and the experience of carrying out this type of research in schools, and was adjusted to provide a more detailed analysis of:

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[5] The specific number of such tasks varies. Annex 5 to Section 2 of the School Teachers Pay and Conditions Document (STPCD) set out a list of 21 routine and clerical tasks but this was not meant to be exhaustive. The number of task commonly quoted is 25, though in the DISS study 26 were listed because pilot research showed that one task seemed to cover two separate activities. But school staff sometimes referred to 24 tasks, as will be seen later.

1. The interactions between pupils and the support staff with whom they closely work, in order to better understand how pupils' errors are dealt with, how much and what kinds of 'scaffolding' take place, and how the adults assess pupils' difficulties and misunderstandings; and

2. The wider pedagogical role of pupil-based support staff in terms of lesson and curriculum delivery, in order to learn more about their preparedness for, and involvement in, lessons (e.g. communication and feedback between support staff and teachers, and support staff's pedagogical and subject knowledge).

The main purpose of the case studies was, as in Strand 2 Wave 1, to provide an interpretive and grounded analysis of factors relating to support staff deployment and impact in schools, but this time to focus on pupil and/or class-based support staff in particular roles. These roles were; higher level teaching assistants (HLTAs), teaching assistants (TAs), learning support assistants (LSAs) and classroom assistants (CAs) (referred to collectively as TAs); and support staff who undertook cover supervision (referred to collectively as cover supervisors). In Wave 1 special schools were included; in Wave 2 they were not.

In terms of the data collection carried out in schools, in Wave 2 the systematic observations were replaced by structured observations. These summarised activity within five minute blocks instead of ten-second blocks, and were not pupil-focused, but centred on the actions of adults and the contexts in which they worked. The semi-structured interviews with teachers and TAs allowed for a detailed interrogation of the lesson observations, rather than covering the full range of themes used for Wave 1. Audio recording of adult-pupil interaction was introduced in Wave 2, providing detailed data on the practices of teachers, TAs and cover supervisors.

On the basis of pilot visits, the key issues affecting pupil-based support staff were grouped into five dimensions, covering support staff management and deployment, classroom practice and preparedness. The dimensions performed the function equivalent to that of the ten themes used in Strand 2 Wave 1. They are described in detail in the results section (5.2) below.

The breakdown of participating schools is shown in Table 2.3.

Table 2.3 - Strand 2 Wave 2 Case study sample (schools)

	England	Wales	Total
Primary	7	2	9
Secondary	7	2	9
Total	14	4	18

2.4.1 Data collection

Each case study visit lasted three days and took the form of 'shadowing' a member of support staff for a day. In most schools, two per school were shadowed, although in some small primary schools, only one person was followed. Structured observations were carried out on support staff in a variety of contexts, and these were followed up by semi-structured interviews with the teachers and support staff observed, and senior managers. Additionally, where possible, audio recordings of teacher and/or support staff interactions with pupils were made during observed sessions. Some teachers and support staff supplied researchers with documentation related to lesson planning and learning tasks. These sources were also augmented by field notes, comments and summative judgements by researchers. Data from each school were organised in

terms of the five dimensions of interest and written up by researchers using an agreed framework.

2.4.1.1 Structured observations

To give a systematic account of support staff at work, each observation period of the shadowing day (e.g. one lesson) was divided into five minute blocks. During each interval, broad and fine level information was recorded about the role of support staff and the context in which they were working (e.g. in or out of class). Additional data on teacher activity, pupil ability (as described by the teacher) and the tasks they undertook were also collected. A category coding system of descriptors and high frequency events was developed.

Summary of key variables

Teacher / support staff activity

- Not working with pupils (listening to teacher teach - inactive; talking to teacher; doing admin/working with resources; marking/assessing pupil work; other)

- Working with pupils (one-to-one; in small / medium / large group; roving; listening to the teacher teach - active; leading whole class; other).

Location of support staff

- In class

- Withdrawal in class (e.g. in classroom, but not part of main whole class activity)

- Withdrawal from class.

Supported task

- Non-differentiated

- Task related or differentiated

- Different task.

In total, there were 1,502 discrete observations, 1,437 of which were made in 140 lessons and sessions, both in and away from mainstream classes (54 in primary; 86 in secondary). Data were collected in eighteen schools (9 primary; 9 secondary). TAs (or equivalent title) were the focus of the majority of observations (98% for primary; 71% for secondary). Thirteen percent of all observations concerned cover supervisors (secondary schools only) and just 4% related to HLTAs[6].

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[6] The number of observations for HLTAs was too limited for meaningful comments to be made about this role. These data were therefore added to that for TAs and analysed and reported collectively.

The research design prioritised observations of support staff working with Years 5 and 10, but as expected, most were shadowed working across the school with various year groups (see Table 2.4). TAs were observed working with Year 5/6 pupils in 62% of all primary observations. For 38% of all secondary observations, TAs were observed supporting pupils in Year 10/11. The majority of observations involving cover supervisors were in Year 10/11 classes (58%).

Table 2.4 - Strand 2 Wave 2 case studies year group x support staff type

| | Primary | | Secondary | | | |
	TA		TA		Cover Supervisor	
Year 1/2	26	4%	N/A	N/A	N/A	N/A
Year 3/4	174	29%	N/A	N/A	N/A	N/A
Year 5/6	373	62%	N/A	N/A	N/A	N/A
Year 7/8/9	N/A	N/A	318	55%	72	37%
Year 10/11	N/A	N/A	220	38%	113	58%
Other	28	5%	43	7%	9	5%
Total	601	100%	581	100%	194	100%

Codes describing the predominant activity of support staff and teachers over each five minute period were then entered onto an observation pro-forma.

Alongside this, researchers made detailed supporting notes, which not only gave more information on the conditions and events in each block, but also provided a broader account of each observation period and how they fitted together to form the support staff's day. These open-ended notes informed the qualitative analysis of the case study data.

2.4.1.2 Interviews

The shadowing days were followed up by semi-structured interviews with the target support staff and at least one teacher in whose class they were observed. This enabled researchers to clarify and probe the typicality of observations and, through the use of a schedule of questions, explore the opinions and attitudes towards support staff deployment, practice, interaction and impact. Researchers were, by and large, able to carry out the interviews as proposed, and where it was not possible to interview a specific individual, schools helpfully arranged suitable alternatives. Interviews with headteachers gathered similar data at the school level. Researchers conducted a total of 95 interviews across 18 schools (see Table 2.5).

Table 2.5 - Strand 2 Wave 2 case studies interviews conducted

	Primary	Secondary	Total
Headteacher / other senior manager	9	10	19
Teacher	14	12	26
TA (or equivalent job title)	14	12	26
HLTA	0	1	1
Cover supervisor	N/A	5	5
Administrative support staff	8	10	18
Total	45	50	95

2.4.1.3 Strand 2 Wave 2 case studies audio recordings

In a sub-sample of the schools a total of 130 lesson/session length recordings of teacher and support staff talk were made in 15 schools (8 primary; 7 secondary), 42 of which were made simultaneously in the same classroom (see Table 2.6). The target sample for the recordings were English and mathematics lessons in Years 5 and 10, but researchers made recordings whenever the opportunity arose. As a result, almost three times as many recordings as originally proposed were made, across a range of year groups and subjects, making a substantial data set. Recordings were made of support staff working in different contexts, both in terms of their physical location (e.g. in class, withdrawn *within* class or withdrawn *from* class) and the role they took (e.g. supporting a pupil one-to-one and in groups, roving the class or leading a class as part of cover/PPA arrangements).

However, for the purposes of contrasting the interactions of teachers and support staff with pupils, the main analysis was conducted on pairs of teacher to pupil and support staff to pupil talk in the same lessons. In order to make the classroom conditions as similar as possible we also restricted the analysis to English and mathematics and to situations where support staff were in the classroom with the teacher (the structured observations showed that support staff spent most of their time in this way). This resulted in a main sample of 16 lesson length transcriptions of teacher to pupil talk and 16 lesson length transcriptions of support staff to pupils. In addition a sample of 8 sessions led by teaching assistants when out of the classroom were coded in order to see whether their talk differed substantially from that when supporting pupils within the classroom. More details on the coding frame, methods of analysis and inter-rater agreement are presented in the results section (5.3) below.

Table 2.6 - Strand 2 Wave 2 case studies audio recordings made

	Primary	Secondary	Total
Teacher	27	18	45
TA	40	31	71
HLTA	0	3	3
Teacher & TA (simultaneous)	*(24)*	*(18)*	*(42)*
Cover supervisor	N/A	11	11
Total	67	63	130

An integrated approach to analysing the roles and practices of pupil-based support staff was used to collate and integrate all the data from the case studies, within which data from multiple sources was described and analysed in terms of the five dimensions of interest. The dimension of interest tables acted as the framework used to organise data for each school, and was designed to allow comparison of teacher and support staff roles, and the structures and contexts that influenced and shaped practice. Following the same process as for the Strand 2 Wave 1 case studies, material for each dimension was broken down and prevalences calculated using a coding frame developed by two researchers. The dimensions were a descriptive tool for organising data. On the basis of the data, emergent issues within each dimension were also identified, supported by numerical information from the tables and extracts from interview transcripts and observation records. More information is given in the results (5.2) section.

Chapter 3: The impact of support staff on teachers and teaching

Key findings

- At Wave 1 most routine and clerical tasks were still performed by the teachers but by Wave 2 and 3 there was a major change with most tasks now performed by support staff. Administrative staff were far more likely than any other support staff category to perform tasks previously undertaken by teachers.

- Just over half of teachers at Wave 3 judged that support staff had led to a decrease in their workload mainly because the transfer of routine activities allowed more time for teaching and attending to pupils. In a minority of cases workload had increased because of planning required to prepare support staff.

- Support staff had a positive effect on teachers' level of job satisfaction. The main reasons given for the impact of support staff on teachers' job satisfaction were: more of the individual needs of their pupils were being met; pupils' learning and achievement were enhanced; the personal qualities and skills of the support staff; time available for teaching was increased and the quality improved.

- There was also a positive view on the effect of support staff on teacher stress, largely because of effects on teachers and their teaching, e.g., being able to share their workload.

- The main ways that teachers felt that support staff had affected teaching were through bringing specialist help, allowing more teaching, affecting curriculum / tasks / activities offered, taking on specific pupils, removing administrative and routine tasks, and allowing more time for planning and preparation.

3.1 Impact of support staff on teachers' workloads, job satisfaction and levels of stress

3.1.1 Impact on routine administrative and clerical tasks

One method of assessing the impact of support staff on teachers was to see how many of the routine administrative and clerical tasks had been transferred from teachers. In the TQ, teachers were presented with a list of 26[7] routine and clerical tasks and asked to say for each task which they still performed themselves, which were performed by other staff, and to also give the post title of the staff now carrying out the tasks.

This exercise was conducted for all three waves (see Table 3.1). In Wave 1 it was found that most tasks were still performed by the teachers. At Wave 1 those tasks most likely to be done by the teacher (more than 60% of teachers) were record keeping, filing, classroom display, processing exam results, collating pupil reports, administering work experience, administering examinations, ordering supplies and equipment, stocktaking, cataloguing, preparing equipment and materials, minuting meetings, coordinating and submitting bids, seeking personnel advice, managing pupil data and inputting pupil data. By Wave 2 there was a major change with most tasks not now being performed by teachers. The drop in numbers of teachers now performing these tasks was in many cases very marked, with a number more than halving (see Table 3.1). Only record keeping,

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[7] As described above 26 tasks were used because one was split into two.

classroom displays, administering and invigilating examinations (predominantly at secondary level), and giving personnel advice were still mostly done by teachers (i.e. more than 60% of teachers). The results for Wave 3 showed a picture that was very similar to Wave 2, with a similar proportion of teachers performing each task.

As mentioned in the Strand 1 Wave 1 report (Blatchford et al, 2006), even these results may underestimate the impact of support staff in that tasks may still be performed or directed by teachers, but they may have passed some or most aspects on to support staff. In this sense teachers may still be associated with some tasks such as classroom displays, but through organising them rather than carrying out all the work themselves.

Teachers were also asked to note which of these tasks were now performed by other staff. As would be expected, to a large extent results showed the converse picture to that just described. In contrast to Wave 1, most tasks in Wave 2 and Wave 3 were now performed by other staff (see Table 3.1). The results for Waves 2 and 3 were very similar for all tasks. Those that were performed by other staff at Wave 3 (more than 60%) were collecting money, chasing absences, bulk photocopying, copy typing, producing standard letters, producing class lists, analysing attendance figures, processing exam results, administering work experience, administering teacher cover, ICT trouble shooting, commissioning new ICT equipment, stocktaking, preparing/maintaining equipment, and inputting pupil data.

Table 3.1 - Administrative tasks carried out by teachers and support staff

	Task	Performed by yourself			Performed by others		
		Wave 1 N (%)	Wave 2 N (%)	Wave 3 N (%)	Wave 1 N (%)	Wave 2 N (%)	Wave 3 N (%)
1	Collecting money	720 (57%)	517 (42%)	439 (49%)	604 (48%)	810 (65%)	545 (61%)
2	Chasing absences	369 (43%)	237 (20%)	202 (23%)	547 (63%)	1013 (85%)	729 (82%)
3	Bulk photocopying	546 (46%)	391 (31%)	294 (32%)	797 (67%)	972 (67%)	716 (78%)
4	Copy typing	314 (58%)	325 (31%)	282 (39%)	264 (49%)	777 (49%)	474 (65%)
5	Producing standard letters	394 (51%)	364 (30%)	356 (40%)	419 (54%)	938 (54%)	611 (69%)
6	Producing class lists	387 (49%)	322 (27%)	274 (31%)	444 (56%)	963 (79%)	671 (76%)
7	Record keeping	1251 (94%)	1101 (89%)	802 (89%)	148 (11%)	275 (22%)	199 (22%)
8	Filing	734 (69%)	695 (58%)	539 (60%)	456 (43%)	687 (57%)	482 (54%)
9	Classroom display	1195 (83%)	947 (75%)	721 (78%)	543 (38%)	671 (53%)	506 (55%)
10	Analysing attendance data	139 (24%)	122 (11%)	104 (12%)	430 (77%)	1057 (91%)	793 (92%)
11	Processing exam results	527 (71%)	472 (47%)	357 (48%)	267 (36%)	615 (62%)	449 (61%)
12	Collating pupil reports	717 (70%)	668 (56%)	469 (53%)	331 (32%)	593 (50%)	461 (52%)
13	Administering work experience	398 (68%)	392 (41%)	287 (41%)	194 (33%)	592 (62%)	435 (62%)
14	Administering exams	572 (83%)	542 (61%)	377 (59%)	129 (19%)	409 (46%)	304 (47%)
15	Invigilating examinations	658 (87%)	546 (66%)	388 (64%)	145 (19%)	355 (43%)	268 (44%)
16	Admin of teacher cover	230 (50%)	214 (22%)	148 (21%)	248 (53%)	810 (82%)	604 (84%)
17	ICT trouble shooting	290 (42%)	258 (22%)	178 (21%)	445 (65%)	994 (86%)	722 (85%)
18	Commissioning ICT equip.	185 (37%)	168 (16%)	119 (12%)	332 (67%)	937 (89%)	712 (88%)
19	Ordering supplies	846 (76%)	627 (52%)	472 (53%)	382 (34%)	790 (65%)	566 (64%)
20	Stocktaking	417 (61%)	364 (34%)	292 (37%)	303 (44%)	787 (74%)	566 (72%)
21	Maintain equipment	528 (71%)	489 (46%)	383 (48%)	284 (38%)	712 (67%)	534 (67%)
22	Minuting meetings	645 (76%)	491 (46%)	414 (52%)	246 (29%)	653 (62%)	470 (59%)
23	Co-ordinating/ submit bids	461 (76%)	463 (50%)	353 (50%)	141 (24%)	517 (56%)	385 (55%)
24	Giving personnel advice	582 (84%)	566 (62%)	421 (61%)	140 (21%)	452 (49%)	355 (51%)
25	Managing pupil data	717 (78%)	640 (56%)	519 (60%)	275 (32%)	679 (59%)	500 (58%)
26	Inputting pupil data	548 (65%)	519 (45%)	478 (54%)	369 (45%)	828 (71%)	573 (65%)

3.1.2 Who now completes the tasks?

In the TQ, teachers indicated the post title of those now performing each task previously carried out by the teacher. These data were then classified into the seven support staff categories. Full results are shown in Appendix 1. The results for Wave 3 were almost identical to those for Wave 2 for all tasks.

One result clearly stood out: administrative staff were far more likely than any other support staff category to perform tasks previously undertaken by teachers. Taking a 60% criteria as an indication of where a member can be said to have main responsibility (other than the teacher), administrative staff now performed 13 of the 26 tasks (i.e., collecting money, chasing absences, copy typing, producing standard letters, producing class lists, record keeping, analysing attendance data, processing exam results, collating pupil reports, administering exams, ordering supplies, managing pupil data, and inputting pupil data). TA equivalent staff at Waves 2 and 3 were said to have taken on classroom displays (this does not necessarily contradict the fact that in Table 3.1 classroom displays are still for the most part undertaken by teachers), technicians have taken on ICT trouble shooting/repairs and commissioning ICT equipment, and other pupil support staff have taken on invigilating examinations. Pupil welfare, facilities and site staff have barely figured in the transfer of tasks from teachers.

3.1.3 Impact on teacher workload

Teachers were also asked to indicate how support staff they worked with in the last week had affected their workload, if at all. Results for Wave 3 are illustrated in Figures 3.1 and 3.2 and full results can be found in Appendix 2. There were few responses in some of the five categories of the scale and so the five point scale was reduced to three points: decrease, no change and increase.

The results showed that support staff had a positive effect on teacher workload. In Wave 3, just over a half of teachers (53%) said this member of support staff had caused a decrease in workload, just over a third (36%) had led to no change in workloads, and just 12% said they had caused an increase. There was a very similar picture at Waves 1 and 2. However, the results varied by support staff category. Administrative staff, technicians, and TA equivalent staff were all responsible for more of a decrease in workload (70%, 56%, and 58% respectively), whilst there was far less impact for either facilities or site staff on workload (7% and 21%). The result concerning administrative staff is in line with results just presented from the list of tasks transferred to support staff, showing that they reduced teacher workloads.

When all support staff categories were considered together, there were no differences between the three waves. There were also no differences between waves when individual support staff categories were considered separately, though there were some signs (which were just statistically significant, $p=0.05$) of a decline across waves in the extent to which technicians led to a decrease in workload.

Figure 3.1 - Impact of support staff on teacher workload (all staff, and by country and school phase) [Wave 3]
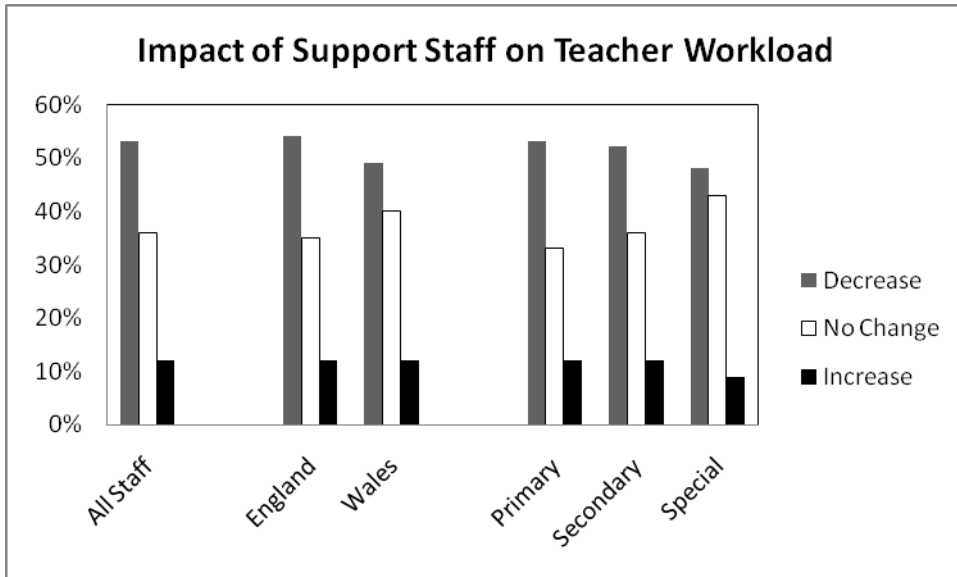
Total base figure = 1787
Data from TQ3

Figure 3.2 - Impact of support staff on teacher workload (by support staff category) [Wave 3]
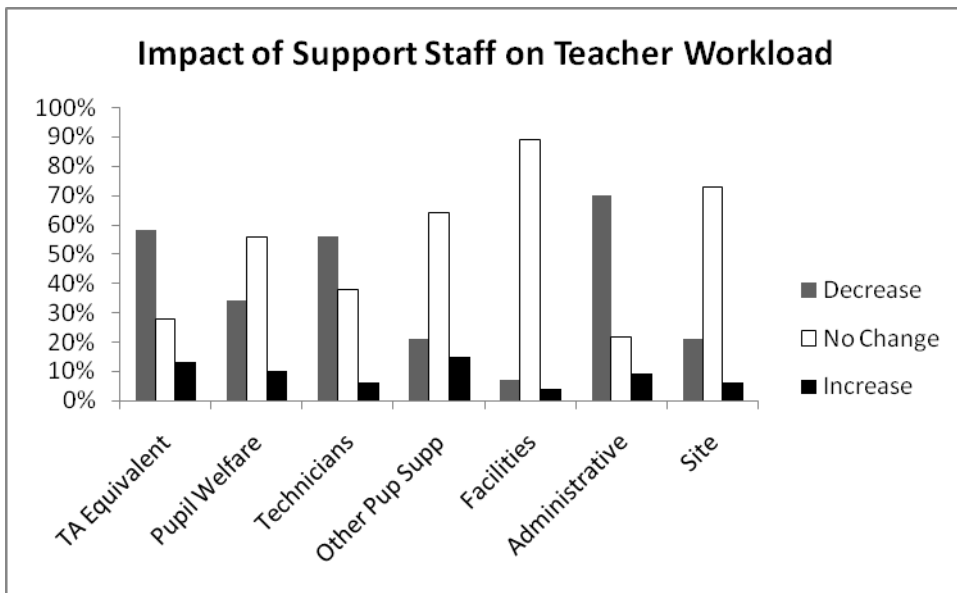
Total base figure = 1765
Data from TQ3

3.1.4 Impact of support staff on teacher workload: open-ended comments

Teachers were asked to comment on how support staff (they had worked with in the last week) had affected their workload, if at all. There were 605 teacher responses at Wave 2 and 468 at Wave 3. A similar coding frame was used at both waves. There were many codes and in this report we do not give a detailed breakdown of frequencies of each code but concentrate on the most frequent categories. It was clear from the teachers' comments in Wave 2 that for many of them the presence of support staff in the classroom and in the school has had a positive impact on their workload. Some of the teachers (4%) merely stated that their workload had decreased, whilst 44% went into much greater detail often listing the tasks that they no longer had to perform or at least could carry out less frequently because the support staff were doing them instead. Such tasks included photocopying, administration, displaying work and dealing with resources. Some teachers (3%) stated that the support staff saved them time by not having to do the work themselves whilst 4% said that it resulted in them being 'released' or 'freed up' to focus on other areas of their work, particularly teaching and the pupils. For 6% of the teachers the impact of a reduction in workload had other effects as well: for some this was just the ability to do the job, whilst for others it brought about the pleasure of a good working relationship, a reduction in pressure and making the job easier.

Teachers' comments in Wave 3 suggested that this positive impact had been maintained. The most frequent individual category (26%) related to being relieved of their administrative burden, and another key impact area (13%) reflected the work support staff did with, and for, pupils (e.g. sharing teacher workload during lessons). Nine percent of comments - a greater proportion than in Wave 2 - reflected how support staff helped to 'free up' time for core teaching tasks. This is an increase in the proportion of teachers that made similar comments in Wave 2 (around 7%).

> *Classroom assistant can prepare lesson resources, displays, etc, giving more time*
> *for the teacher to plan and teach.*
> **Primary teacher**

> *HLTA expertise and confidence enables me to offer additional support, attend*
> *meetings, meet with other professionals.*
> **Primary teacher**

In Wave 1, the numbers of support staff creating a large increase in workload were very low, and the reasons why this was were unclear. In Wave 2, 28% of teachers reported that the presence of support staff had affected their workload in a negative way. A quarter of teachers explained that some aspects of their workload had increased as a result of having support staff work for them. Approximately half of this group of teachers stated that the reason was due to the increased amount of planning and preparation which was required in order for the support staff to be able to carry out their work; not only was additional planning needed but some teachers found it necessary to plan in much greater detail than was required for their own teaching. For Wave 3, fewer teachers (21%) reported that aspects of their workload had increased as a result of having support staff work for or with them, a high proportion again cited the same reason. The need to communicate these plans also involved extra time and work for teachers.

> *I have to provide a planning sheet to show the LSA what the SEN pupil needs to do*
> *in literacy and numeracy in addition to my planning for the rest of the class.*
> **Primary teacher**

Need always to find time to communicate. Need to photocopy plans, etc for LSA and ensure they are detailed enough for her to read and understand.
Primary teacher

Sometimes required to explain (in writing) to support staff things I am explaining in class anyway.
Secondary teacher

If the cleaner does not fulfil her duties, I have to ensure that everything is ready for the children: e.g. bin liner in bin, toilet paper in the toilets.
Special school teacher

It is worth noting that a further 4% of comments reported that the time taken up with this extra work was worthwhile in terms of it helping support staff to work more effectively, especially in relation to supporting pupil learning. This is an increase from Wave 2, where just 1% of comments expressed this sentiment.

There is a significant amount of work involved in managing classroom support - but it is worth the time spent.
Primary teacher

Mainly in preparing documentation to support issues or incidents but helps [pupil welfare support staff] to deal with it.
Secondary teacher

A further 2% of comments in Wave 3 revealed how teachers' responsibilities for managing and monitoring the work support staff had increased their workload.

I have to train support staff to use ICT with PMLD and SLD[8] pupils.
Special school teacher

Not all the teachers in Wave 2 felt that support staff had made a difference to their workload (11%), citing various reasons from always having had support staff in the past, to support staff having tasks and roles which did not impinge on the teacher a great deal. For Wave 3, the proportion of teachers reporting this view was 15%. In Wave 2, some teachers (6%) stated that certain aspects of their workload had increased but this was balanced by a decrease in other areas. This proportion was higher in Wave 3 (10%). Time saved by not having to do clerical tasks was taken up with preparing lesson plans for support staff. Other teachers, however, said that their workload had been balanced out by other paperwork and initiatives not linked to support staff.

Less work in preparation but much more time given to communicating with LSA, planning for LSA and pastoral care of LSA.
Primary teacher

The amount of added paperwork during the last few years means any decrease a teaching assistant could have given has not impacted on workload overall.
Primary teacher

Admin support takes away a lot of tasks but teaching and learning work then expands to fill the gap.
Secondary teacher

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[8] Profound and multiple learning disabilities; severe learning difficulties

3.1.5 Impact on teacher job satisfaction

Teachers were asked to give information on two different types of support staff that they had worked with in the last week. They were asked to describe how the person had affected their job satisfaction, level of stress and workload. Answers were expressed in terms of a five point scale but to simplify results they were combined into three levels: a decrease, no change, and an increase in their job satisfaction. The results for Wave 3 are presented in graphical form in Figures 3.3 and 3.4 and full results are in Appendix 3.

Figure 3.3 - Impact of support staff on teacher job satisfaction (all staff, and by country and school phase) [Wave 3]
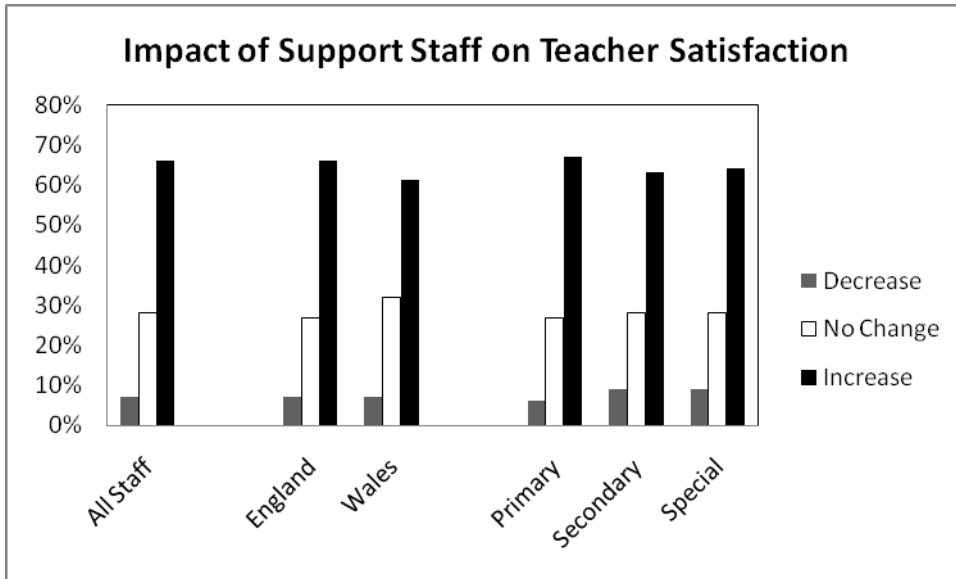
Total base figure = 1798. Data from TQ3

Figure 3.4 - Impact of support staff on teacher job satisfaction (by support staff category) [Wave 3]
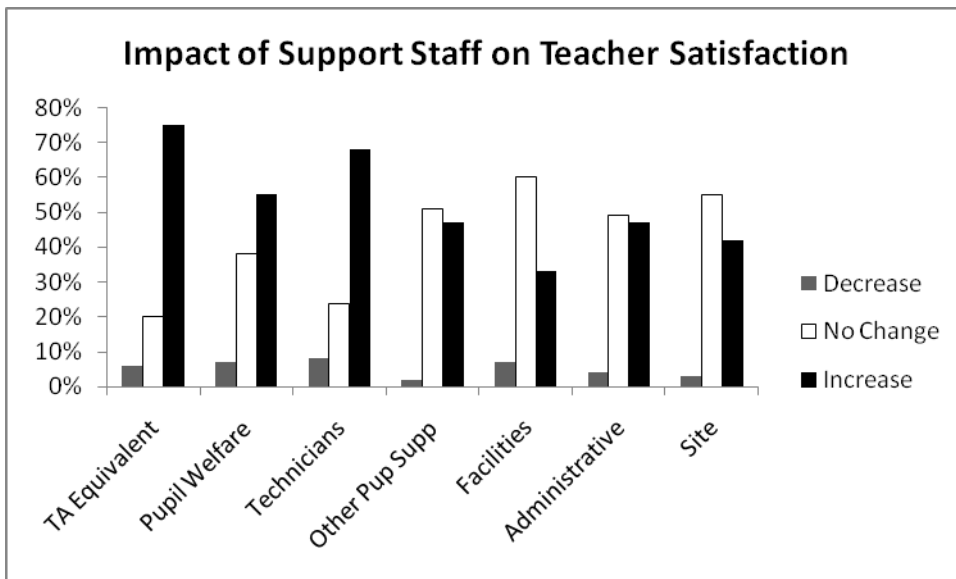
Total base figure = 1776. Data from TQ3

The results showed that support staff had an overall positive effect on the job satisfaction of teachers at all three waves. About two thirds of teachers at each wave (68%, 65% and 66% for Waves 1, 2 and 3 respectively) said that this member of support staff had led to a slight or large increase in job satisfaction, and only a small percentage at each wave (7%, 5% and 7% for Waves 1, 2 and 3 respectively) said that the support staff had decreased their job satisfaction.

Different categories of support had a varying impact on teachers' job satisfaction. At each wave TA equivalent staff and technicians were most likely to be associated with an increase in job satisfaction (78%, 74% and 77% for TA equivalent and 69%, 68% and 63% for technicians), with facilities, site, other pupil support, and administrative staff the least likely to have increased job satisfaction (41%, 35%, 38% and 50% respectively at Wave 3). This was not because they caused a decrease in job satisfaction but because they did not lead to any change in job satisfaction. That administrative staff did not have a higher effect on teacher job satisfaction is a bit surprising given the way they have taken on many of the teachers' clerical and routine and tasks. It may have something to do with the fact that administrative staff, whilst doing tasks previously handled by the teacher, do not work physically closely with the teacher, and so the handing over of tasks is less visible.

The results suggested little difference overall in job satisfaction between waves when all support staff were considered together, and individual categories of support staff were considered separately.

3.1.6. The impact of support staff on teacher job satisfaction. Answers to open-ended questions

In the Wave 3 TQ teachers were asked to comment on their chosen rating of job satisfaction. The comments were made by 502 teachers and there was a total of 720 coded responses altogether (teachers could give more than one response). Once again in this report we concentrate on the most frequent categories.

Codes discussed below are the four most popular responses which expressed the view that support staff did have an impact on their job satisfaction. Only 12 (2%) of responses indicated that the chosen support staff had not changed their job satisfaction one way or another. We illustrate these responses with quotes[9].

The most common category of responses (81 responses; 11% of responses) described ways in which support staff contributed to meeting the needs of all the pupils in the class, such as through more attention, ensuring that particular pupils were supported and that none were overlooked.

> *I am pleased to be able to support pupils who are likely to make most progress.*
> **Classroom assistant**
>
> *Through quality support accompanied by constant communication between myself and the HLTA, I can quickly target work at the correct level to the targeted group.*
> **HLTA**
>
> *I know that speaking and listening needs are being catered for these children with this extra 'input'.*
> **Bilingual support assistant**

---

[9] In this section we give the category of support staff to which the teacher was referring in the quote.

The second most common category of responses described ways in which teachers felt support staff enhanced pupils' learning and achievement, such as by meeting lesson objectives and learning at a faster pace. There were 58 responses in this category (8% of responses).

Children who were de-motivated because of regular absence now attend and are making progress.
Attendance officer

To see pupils who without support would not achieve high standards, progress is bound to bring job satisfaction.
Nursery nurse

The benefit of LSAs means children with SEN have the means to succeed.
LSA

More children can progress when two adults are working with the children at the appropriate level.
HLTA

The third most common category of responses described aspects of the personal qualities and skills of the chosen support staff, such as technical expertise and positive attitudes to their work. There were 58 responses in this category (8% of the responses).

I have a very competent TA who is able to use her initiative and has a good manner with the children and therefore I feel that my teaching is reinforced.
Classroom assistant

Very reliable member of staff, therefore very supportive of me. Material is always to hand when I need it.
Administrator/clerk

Lucky to find a colleague who is so talented.
Technology technician

Our present team of technicians is very efficient and made my job much easier.
Science technician

The knowledge that the library staff can provide resources for me and my students is a massive help.
Librarian

The fourth most common category of responses described how support staff had an impact on the amount of time available for and the quality of, teaching. These included being able to focus more on teaching, teach better lessons and devote more time to that core role. There were 51 responses in this category (7% of responses).

I can achieve more suitable learning / activities when support staff is there.
Classroom assistant

Allows me to actually teach.
LSA

I have been able to carry out the job I have been trained to do i.e. teach the children.
Nursery nurse

I feel as if I can do a good job with TA support for the whole class, instead of getting bogged down and never feeling as if anyone was getting good quality teaching.
TA

Looking at the responses as a whole, it is striking that teachers chose to make comments about TA equivalent staff 506 times out of the 720 (70%), followed by 78 (11%) about administrative staff and 59 (8%) about technicians. Obviously TA equivalent staff work most closely with teachers, alongside them in the classrooms, so it is perhaps not surprising that they have the potential to have most impact on the job satisfaction of the teachers. There were only 10 responses about TA equivalent staff which expressed a negative feeling and 9 responses which expressed a neutral feeling about their impact on the teachers' job satisfaction, so the overwhelming impact was a positive one (96% of the 506 comments).

The other two categories of support staff most often commented upon, generally worked in direct support of the teachers, rather than the pupils. Teachers clearly value the support of technicians and administrative staff in making their teaching easier, more effective and free from the many practical tasks which would otherwise distract them from their role as teachers.

3.1.7 Impact on levels of teacher stress

A similar question asked how support staff affected the level of teacher stress, and results are displayed in Figures 3.5 and 3.6 and full results are in Appendix 4.

Figure 3.5 - Impact of support staff on teachers' level of stress (all staff, and by country and school phase) [Wave 3]
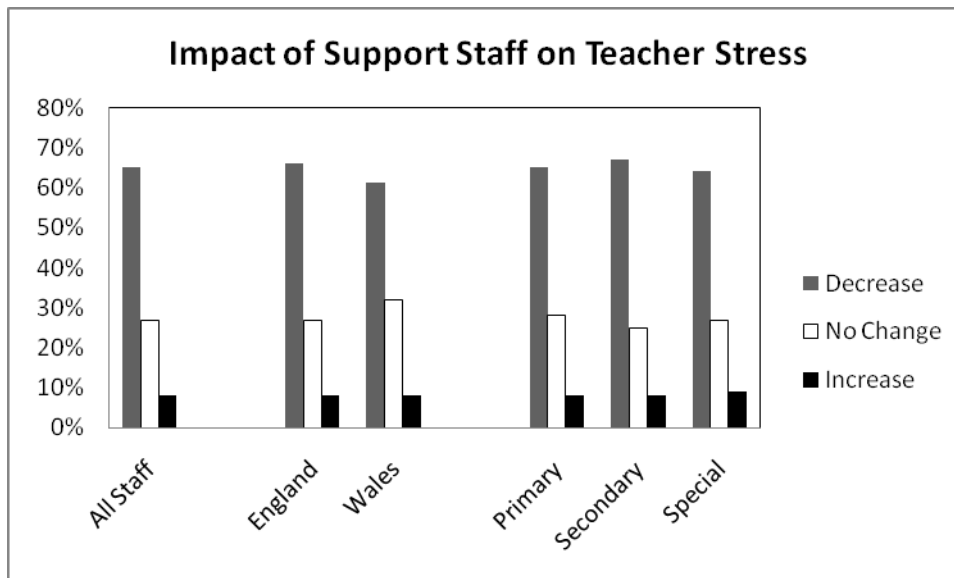
Total base figure = 1793
Data from TQ3

Figure 3.6 - Impact of support staff on teachers' level of stress (by support staff category) [Wave 3]
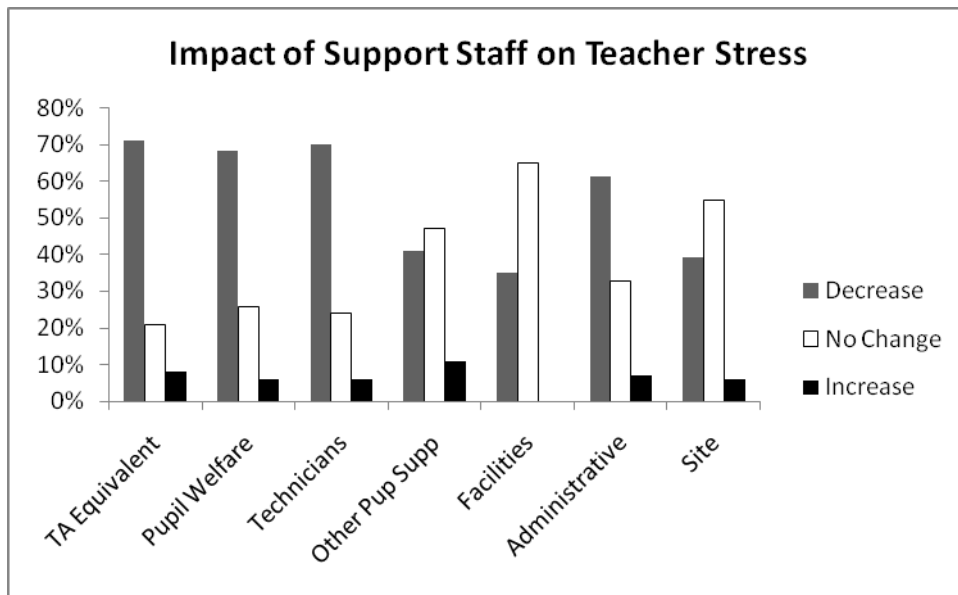
Total base figure = 1771
Data from TQ3

The results showed that support staff had a positive impact on teachers' stress levels, with about two thirds of teachers saying that support staff led to a decrease in stress in Wave 3 (65%) and only 8% leading to an increase in stress. This is similar to Waves 1 and 2. As with the two previous waves, different support staff categories had a differing impact on teacher stress. In Wave 3, TA equivalent, pupil welfare, technicians and administrative support staff were most likely to cause a decrease in teacher stress (71%, 68%, 70% and 61% respectively).

There were no overall differences in results between the three waves when all support staff categories were combined, or when individual categories were compared.

3.1.8 Impact of support staff on levels of teacher stress: open-ended answers

In Waves 2 and 3, teachers were given the option of writing comments to explain their rating of the impact of support staff on levels of stress. Some teachers wrote about just one type of support staff whilst others wrote about both. Many teachers wrote about more than one aspect of their stress, and so these were coded separately. The same coding system for job satisfaction was used to code their stress responses. In this report we describe the main responses.

In Wave 2, 629 teachers responded producing a total of 756 responses. The majority of the comments could be classified into three main categories. The most frequently cited category with 404 comments (53% of responses) was the impact that support staff have upon teachers and their teaching, this included aspects such as the teacher being able to share their workload or the pleasure of working as part of a team. The other two categories produced fewer responses. 131 comments (17% of responses) stated that the knowledge that their pupils were receiving support and attention affected teachers' own stress levels and 20% of responses (156 comments) were comprised of remarks about the support staff themselves such as the tasks they carried out or the way in which they performed their work.

In Wave 3 a total of 151 responses were produced by 105 teachers (some wrote about just one type of support staff whilst others wrote about two). Each different aspect of their stress was coded separately, thus producing a total of 233 comments. As with Wave 2 there were three main categories. In Wave 3 the most frequently cited category with 90 comments (39% of all the responses) was that of the impact upon teachers and their teaching. As with Wave 2 the issue of workload was the subject which produced the most comments in this category (8%-19 comments).

> *The role of the teacher has changed over the years. I spend a very long time working each week (60+ hours). Without a Teaching Assistant/Learning Support Assistant to shoulder some of the burden life would be impossible.*
> **Classroom Assistant[10]**

> *I know that there is a knowledgeable, willing, effective member of the support staff available to take on the burden of some of the aspects of the teaching role.*
> **Classroom Assistant**

The other two principal categories at Wave 3 were mentioned equally with 24% of the comments each. There were 56 comments from teachers who said that their stress levels were affected due to the support their pupils received, the most frequent comments in this category stating that the teachers were less stressed due to their pupils being better supported with their needs being met and in receipt of more attention (26 comments - 11%)

> *The teaching assistant has definitely decreased my level of stress because all students are being taught at different levels so I am happy that they are learning.*
> **Teaching Assistant**

> *Support staff has helped remove the problem of giving children with learning difficulties more chance to work in small groups in one-to-one with an adult.*
> **Classroom Assistant**

> *Not so worried about meeting the needs of SEN pupils.*
> **LSA for SEN pupils**

The other main category, also with 24% (58 comments), was remarks about the support staff themselves. Comments included the way in which the support staff could affect the classroom and learning environment and the fact that outcomes were dependent upon the individual support staff. The most common comments (23 responses - 10%) were descriptions of the tasks carried out by support staff. The personal qualities of the support staff themselves also had an impact upon teachers (9% of comments - 22 remarks).

> *She has common sense and will do things to help without being asked.*
> **Teaching Assistant**

> *I am free to leave class for PPA knowing they are in capable hands.*
> **HLTA**

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[10] Again, we give the category of support staff referred to by teachers.

It greatly helps with workload but my Teaching Assistant's attitude can increase my stress levels therefore these factors balance each other out. I do know that my class are in very good hands when I cannot be there.
Teaching Assistant

In Wave 3 the majority of the comments (69%) were about support staff from the TA equivalent category. This is unremarkable since these types of staff tend to work more closely with teachers than other types of support staff and are therefore more likely to make an impact upon teachers. This is highlighted by the fact that of all the comments made about TA equivalent staff, 39% were about how they affected teachers and their teaching with just 28% about their impact on pupils.

The next most frequently mentioned type of support staff were the technicians (13%). Whilst 45% of the comments were spread evenly over most types of technicians, the remaining 54% were all about the ICT Technicians and of these 17 comments, all but one were positive. This shows how ICT can impact upon teachers but having the support can make a huge difference. Other pupil support received 5% of comments whilst pupil welfare support staff received 6%.

In Wave 2 more than half the comments were about how the teachers were personally affected by the presence of the support staff. This was often mentioned in terms of workload, the personal support received or the pleasure in working as part of a team. In Wave 3 this had reduced to just under 40%. Support for pupils and the qualities of the support staff themselves had increased marginally from the Wave 2 figures of 17% and 20% respectively to 24% for both in Wave 3. Whereas in Wave 2 the teachers particularly appreciated the impact that support staff had on their own teaching, by Wave 3 they were able to see beyond this to the impact the support staff appear to have on their students. However, with the increase of understanding of the impact of support staff comes the awareness that not all support staff have the same knowledge and abilities. This resulted in an increase in the percentage of responses which acknowledged the fact that often it is the personal qualities of the support staff which can make an impact in the classroom.

3.1.9 The impact of support staff on teaching

In the TQ at each wave teachers were asked an open question: *'Please describe how support provided by this type of support staff has affected your teaching, if at all'.*

The coding frame developed to analyse responses in the two previous surveys was used again for the 2008 TQ. Not all responses can be covered here, and we again concentrate on the main categories. Based on a sample of approximately 25% of all respondents (N = 448), the most common response indicated that 11% (56) of teachers felt that the chosen support staff had no effect on their teaching. A further 8% (42) made comments which were not appropriate to the question.

Codes discussed below are the four most popular responses which expressed the view that support staff *did* affect teaching. Teachers could make more than one comment. There were 521 comments coded for this question.

These results reveal a shift in teachers' views since the Strand 1 Wave 2 survey, carried out in 2005/6.The category with most responses in this 2008 survey, expresses the view that support staff have no effect on teaching (11%). However, this is still only a small minority when set against all the responses which express the view that support staff do have effects, either positive (the vast majority, 80%), negative (a very tiny minority of 1%) or not applicable (8%).

Whereas the two most common positive categories of response were the same in Waves 2 and 3 of the survey, the 3rd and 4th items have changed over time. In this latest survey, teachers feel that support staff have freed up time, which can be devoted to tasks closer to their teaching role, such as planning and preparation. Time is clearly the most significant issue in three of the most common positive response categories.

In Wave 2, teachers felt that support staff had made more impact on the range of the curriculum and tasks and by taking on specific pupils. Actually, this issue of taking responsibility for SEN pupils (broadly defined) is embedded in the category 'allowing more teaching', as removal of specific pupils is seen by teachers as directly linked to the amount of teaching they can do with the rest of the class.

1. Brings specialist help

Once again, as in the two previous surveys, the most common positive category of responses described ways in which support staff, based within and outside the classroom, brought expertise or a specialism to the teacher or pupils. This included technical and professional advice to teachers and pupils, as well as dealing with equipment, repairs, the preparation of resources and other tasks which teachers may previously have done themselves. Forty two responses were coded in this category (8% of responses) and examples of some are given below.[11]

> *She has given me many resources and suggestions for how to integrate pupils with no English.*
> **Bilingual support assistant**
>
> *Able to have all the ingredients prepared / weighed out, cleaning of equipment and checking where the equipment is stored. Helps with the organisational standard of the kitchen.*
> **Technology technician**
>
> *I can teach uninhibited by technical glitches (most of the time).*
> **ICT technician**
>
> *Nice to have nurse on site in order to clarify medical needs of pupils. Good to plan PHSE lessons with medical professional.*
> **Nurse**
>
> *Without a lab technician teaching chemistry would be very difficult.*
> **Science technician**

---

[11] After each quote to assist the reader we again give the category of support staff to which they refer.

2. Amount of teaching

The second most common positive category of responses described ways in which support staff affected the amount of teaching - making more time for teaching available generally, or making more time available to teach more pupils or different pupils than would otherwise be possible. There were 42 responses in this category (8% of responses).

> *Can plan for whole class, with knowledge that less able will have support. Can concentrate on remaining 26 children.*
> **HLTA**

> *Frees me up to spend more time educating rather than sorting out socio/economic problems.*
> **Learning mentor**

> *If there is a pupil with immediate medical needs I am able to leave the pupil with the nurse and carry on teaching the rest of the class.*
> **Nurse**

> *Enables me to teach without interruption.*
> **Teaching assistant**

> *I can usually start the afternoon teaching not having to spend the first 20 minutes sorting out disputes and upsets.*
> **Midday supervisor**

> *Frees up time for tasks that relate to classroom responsibilities (planning, assessment etc).*
> **Administrator / clerk**

> *It allowed me to enter data (reports) more easily giving more time to lesson plan and make tasks.*
> **Data manager / analyst**

3. Removes admin / routine work and other non-teaching responsibilities

The third most common category of positive responses described ways in which support staff removed administrative, routine and other non-teaching tasks from teachers. Collecting money, organising materials and rooms, making contacts with parents and tidying up classrooms were some examples reported by teachers. There were 36 responses in this category (7% of responses).

> *More time to concentrate on learning as she helps with daily tasks e.g. sharing milk, filing children's work, photocopying etc.*
> **Classroom assistant**

> *Taken mundane tasks away to allow me to focus on higher level skills and preparation.*
> **Teaching assistant**

> *My time is cut down preparing resources / materials.*
> **Technology technician**

Allows me to focus on teaching - she deals with all phone calls to parents
Home-school liaison officer

Photocopying/preparing letters –saves time. Fantastic support – taken all menial tasks off teachers' shoulders and supports work to a very high standard – very reliable.
Administrator /clerk

4. More time for planning / preparation

The fourth most common category of positive responses described ways in which support staff allowed teachers more time for planning and the preparation of better lessons. There were 34 responses in this category (7% of responses).

Enables me to spend more time planning and marking instead of setting up the practicals and tidying them away.
Science technician

More time to allocate to planning lessons and teaching in the classroom.
Learning mentor

Allows me to use time to prepare and assess class work.
Teaching assistant

The impact it has on my teaching is that the time they spend on jobs for me the more I can focus on teaching, planning and assessment.
Administrator/clerk

To summarise these results on the effects of support staff on teaching from the teacher's point of view, the latest Wave 3 survey showed that support staff have freed up their time, which could be devoted to tasks closer to their teaching role, such as planning and preparation. Time is clearly the most significant issue in three of the most common positive response categories. In the 2005/6 Wave 2 survey, teachers felt that support staff had made more impact on the range of the curriculum and tasks and by taking on specific pupils.

Chapter 4: The impact of support staff on pupils

Key findings

- The main ways that teachers felt that support staff had affected the learning and behaviour of pupils were through taking on specific pupils; bringing specialist help to teacher & classroom; allowing individualisation/ differentiation; improving pupils' attitudes and motivation to work; and having general positive effects on learning and behaviour.

- There was little evidence that the amount of extra support received by pupils over a school year improved their 'Positive Approaches to Learning' (PAL) (e.g., distractibility, motivation, disruptive behaviour) at Wave 1 or at primary for Wave 2, but there was a strong relationship between additional support and all eight of the PAL outcomes at Year 9 (secondary), even after controlling for pupil characteristics like prior attainment and SEN status.

- At Wave 1 and 2 there was there was a consistent negative relationship between staff ratings of the amount of support a pupil received and the progress they made in English and mathematics, and at Wave 2 in science. The more support pupils received, the less progress they made, even after controlling for other factors that might be expected to explain the relationship such as pupils' prior attainment, SEN status and income deprivation. A similar though less marked trend was found with measures of the amount of support taken from the systematic observation data.

- Further analyses showed that the negative effect of support was not attributable to pupils who were making less attainment progress being allocated more support over the year, and results were not attributable to any bias resulting from missing data.

- There was evidence that unsupported pupils in year 9 made less progress in those classes that had a higher proportion of pupils receiving support.

4.1 The impact of support staff on pupil learning and behaviour

As in the two previous waves of the Strand 1 surveys, the 2008 Strand 1 Wave 3 Teacher Questionnaire (TQ) asked teachers to select two different types of support staff, rather than those who carried out similar roles. For each of the two types of support staff selected, teachers were asked an open question: 'Please describe how support provided by this type of support staff has affected pupil learning and behaviour, if at all.'

The coding frame developed to analyse the 2004 Wave 1 responses was used again in the analysis of the Wave 2 (2006) and Wave 3 (2008) data (because of the overlap in responses this was the same coding frame used for effects on teaching, shown in the last chapter). Not all responses can be covered here. Codes included here are the four most common responses to the question which expressed the view that support *did* affect pupils' learning and/or behaviour. Supporting quotes are also given (along with the support staff category to which the quote refers). The responses of 419 teachers (a random sample of approximately 25% of all the 1811 respondents[12]) were used in the analysis and 631 comments were coded.

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[12]At Wave 3 it was decided to only code 25% of all the responses to some of the open ended questions. This was because of time and because previous waves had suggested a degree of repetition in the answers. The selected responses were chosen at random to ensure they were a representative sample.

1. Support staff improve pupils' attitudes and motivation to work

The most common category of positive response (76 responses; 12% of all responses) detailed ways in which support staff affected the pupils' attitudes and motivation to work, such as improving their confidence, self concept, security, keenness to learn and willingness to play a more active part in lessons.

> *Children are focused, aware and on-task, stay on task and can build confidence.*
> **Classroom assistant**

> *They assist in improving condition of department area which leads to better pupil motivation.*
> **Caretaker**

> *Prepares essential practical equipment necessary to aid learning and promote motivation and good behaviour in lessons.*
> **Science technician**

> *Reinforces expectations of behaviour, manners etc. If children eat well and have an enjoyable lunchtime they are more focused.*
> **Cook**

> *Valuable resource for pastoral / behavioural support. Improves attendance / behaviour / attitudes to learning.*
> **Learning mentor**

2. Support staff have a general positive effect on pupil learning and behaviour

The second most common category of positive responses described ways in which support staff had a general positive effect on pupil learning and behaviour. These included improvements in progress. A total of 59 responses were coded in this category (9% of responses).

> *Pupils able to use computers without problems. Useful for learning and behaviour.*
> **ICT technician**

> *At end of morning session I supervise children through toilets then midday assistant takes over, supervises lunchtime. She affects behaviour by her attitude and pupil handling skills.*
> **Midday assistant**

> *I have my TA for 2 mornings and one afternoon a week. During the mornings when she works with pupils I use her to support my lower ability groups in literacy and mathematics and she has a positive support on the learning and behaviour of the group.*
> **Teaching assistant**

3. Support staff have an indirect effect on pupil learning and behaviour

The third most common category of positive responses describes how support staff have an indirect effect on pupil learning and behaviour. There were 51 responses coded in this category (8% of responses).

> *Our premises officer supports the children at the beginning and end of every day and is happy to talk about her job role to the children. She has a big role to play but indirectly.*
> **Premises manager**

> *Indirectly, as the info they provide informs teachers' expectations.*
> **Data manager**

> *Nurses maintain general health of pupils; complex medical needs need to be addressed so that pupils can learn.*
> **Nurse**

> *Preparing resources / books for a themed approach - helping / aiding learning.*
> **Librarian**

> *Improves quality of learning as resources are available also improves behaviour as students who need help are dealt with quicker.*
> **Technology technician**

4. Support staff allow more individualisation and differentiation

The fourth most common category of positive responses describes how support staff allow individual and differentiated tasks, including more personalised learning programmes, smaller groups, more one to one contact and increased catering for the full range of ability levels. There were 36 responses coded in the category (6% of responses).

> *Teaches 'Direct phonics' to a small group of SEN children. Deals with behaviour issues if children are removed from class.*
> **Learning mentor**

> *Offers teaching support to group of students within each lesson, effectively increasing 'teacher contact time' with individual students.*
> **Technology technician**

> *She supports students' learning, especially 2 students, one statemented (EBD/ADHD) and another one with specific learning difficulties (statement as well). She helps them focus, get into a routine and explains tasks/breaks it down for them.*
> **Bilingual support assistant**

> *Gives one to one support with three children on reading and spelling three times a week. Big impact on their participation and completion of tasks.*
> **Teaching assistant**

> *The learning mentors help the student they are mentoring. This improves the differentiation and the behaviour of some students.*
> **Learning mentor**

By way of summary, three of the four most common responses in Wave 3 actually referred to effects on behaviour and learning, whereas in Wave 2 only one did. Wave 2 responses mostly dealt with organisational/deployment issues. Perhaps the novelty or challenge of having support staff available to use in teaching/learning roles was uppermost in teachers' minds in Wave 2, which by Wave 3 had become more routine and the focus had shifted to the impact such deployment was having.

4.2 Impact of support staff on pupil positive approaches to learning (PAL)

As described in the Methodology section, analyses were conducted to assess the degree to which the amount of additional support received by pupils was related to their positive approach to learning, as assessed by their teachers. At Wave 1 this was conducted at Years 1, 3, 7 and 10, whilst at Wave 2 this was measured for pupils in Years 2, 6 and 9. There were eight different dimensions, measured on the basis of teacher ratings near the end of the school year. The dimensions were as follows:

- Distracted - "Pupil was easily distracted"

- Confident - "Pupil was confident about doing the tasks they are set"

- Motivated - "Pupil was motivated to learn"

- Disruptive - "Pupil was disruptive"

- Independent - "Pupil worked independently"

- Relationship - "Pupil had good relationships with other pupils"

- Completed - "Pupil completed assigned work"

- Instructions - "Pupil followed instructions from adults".

For each dimension teachers were asked to say whether the pupil's behaviour had 'improved over the year', 'stayed the same', or 'deteriorated over the year'. For the purposes of analysis the scales of the two negative phrased items (distracted, disruptive) were reversed so that they were positively phrased. The results for all outcomes can all therefore be interpreted in the same direction.

The main measure of support used was teacher (or other staff) estimates of the amount of support received, expressed as a percentage, originally as one of six categories (see Methodology section 2.2.2). To increase the numbers of pupils in each category, the six categories were reduced three: 0-10%, 11-50% and over 50% of time supported (no, medium or high support).

In order to control for possibly confounding factors, the following additional pupil characteristics were obtained through the School Census (formerly PLASC - Pupil Level Annual School Census) and included in the analysis:

- Baseline attainment in English

- SEN status (grouped as non-SEN, some SEN)[13]

- Gender

- Eligibility for free school meals

- Ethnic group (grouped as white, or other than white)[14]

- IDACI (Income Deprivation Affecting Children Index) (Wave 2 and England only)

- English as an Additional Language (Wave 2 and England only)

- Pupil age (Wave 2, Year 2 only).

For Wave 1, Year 1 there was insufficient data on FSM and ethnic group for these variables to be included in the analysis.

A feature of the Wave 2 was the increased sample size relative to Wave 1, with the number of pupils in the Wave 2 analysis typically around double that of Wave 1.

It is recognised that within the SEN group and within the 'other than white' group there will be several sub-categories but the numbers of these pupils in these groups was too small to treat each sub-category separately.

Statistical methods

The data were collected from multiple pupils from the same school. It is likely that pupils from the same schools will be more likely to obtain similar attainment results than pupils from differing schools. This violates the assumptions of standard statistical methods that assume all the results from all pupils are independent of each other. To allow for this, multilevel statistical methods were used for the analyses. Two level models were used, with pupils nested within schools. In both waves there were few responses (2-3%) that indicated that the pupil's attitude to learning had deteriorated over the year (e.g. less confident, less likely to follow instructions – see Section 2.2.4 for a description of the method) and so for the purposes of analysis the deteriorated and no change categories were combined. As a result the outcome was a two point scale and multi-level logistic regression was used for the analysis.

The effect of support on PAL outcomes was performed in a number of stages, starting with an unadjusted analysis of the effect of support, followed by an examination of the effect of support after adjustments for potentially confounding factors.

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[13] Numbers in the school action, school plus and statemented categories were not large and so they were combined into one group. A discussion of this classification of SEN with regard to the analyses of academic progress can be found in Appendix 6.

[14] Numbers in separate ethnic group categories were not large and so were combined into two groups. The 'white' group included White British, Irish, Traveller of Irish heritage, Gypsy/Roma and Any other white background. The White British group made up the vast majority of this group. The 'other than white' group comprised: White and Black Caribbean, White and Black African, White and Asian, Any other Mixed background, Indian, Pakistani, Bangladeshi, Any other Asian background, Black Caribbean, Black African, Any other Black background, Chinese and Any other ethnic group. All data were supplied by the DCSF.

- Model 1: No adjustments

- Model 2: Adjustment for baseline attainment, SEN status, gender, FSM and ethnic group (and pupil age for Wave 2, Year 2)

- Model 3: Additional adjustment for IDACI score and English as an Additional Language (Wave 2 and English schools only)

- Model 4: Additional interaction between SEN status & support.

Although the analysis was performed in a series of stages, in the interests of brevity only results from Model 2 are presented here, as this was the most complete and adjusted for the most number of potentially confounding variables. Results from Model 1 are too simplistic as they do not account for possible variables that could explain any differences. Results from Model 3 are not presented as this would limit the results to pupils in England (the extra measures adjusted for in this model were not available for pupils in the much smaller sample from Wales). This is unlikely to affect the strength of the analyses as it was found that additionally adjusting for these variables for the English sample had little impact on the effect of additional support upon attitudes to learning.

The possible interaction between SEN status and level of additional support was examined (Model 4). A significant interaction would imply that the effect of support upon attainment varied for pupils with different levels of special educational needs, but there were in fact no significant interactions with SEN status.

[Note: The Wave 1 results presented here vary slightly from those published previously (Blatchford et al., 2008). The main difference is that the previous Wave 1 analyses did not account for baseline attainment in the analysis, which is now adjusted for in the analyses in this report.]

Results

Results on the effects of the amount of additional support on the PAL measures are summarised in Table 4.4.

i) Wave 1

The effect of the amount of support upon the change in the PAL measures for Year 1 pupils is summarised in Table 4.1. As mentioned in the Methodology section, support was divided into three groups, low (<10% of time supported), medium (11-50% of time supported) and high (>50% of time supported). The figures reported (odds ratios) are a measure of the difference between the medium and high support groups relative to the low support group. The odds ratios indicate the odds of a pupil showing improved attitudes to learning over the year for medium and high support groups relative to the low support group. An odds ratio of above 1 would mean that an improved attitude to learning is more likely in the medium/high support group relative to the low support group, whilst an odds ratio of below 1 would imply that an improved attitude to learning is less likely in the medium/high support groups relative to the low support group. In addition to the odds ratios, the corresponding 95% confidence intervals are also reported. Also reported are the number of pupils included in the analysis and the p-values indicating if there is a significant effect of support (with p-values of less than 0.05 usually regarded as evidence of statistically significant results).

Table 4.1 - Effect of amount of support on Year 1 PAL measures (controlling for baseline attainment in English, SEN status, gender)

Outcome	N	Support (M- L) Odds Ratio (95% CI)	Support (H- L) Odds Ratio (95% CI)	P-value
Less Distracted	117	1.96 (0.76, 5.00)	1.71 (0.43, 6.81)	0.37
Confident	122	3.56 (0.77, 16.4)	0.60 (0.08, 4.65)	0.10
Motivated	122	2.27 (0.58, 8.91)	3.48 (0.50, 24.1)	0.38
Not Disruptive	122	0.38 (0.10, 1.42)	1.77 (0.33, 9.69)	0.14
Independent	122	3.66 (0.83, 16.2)	0.46 (0.06, 3.78)	0.05
Relationship	122	0.25 (0.03, 1.88)	0.35 (0.02, 5.18)	0.41
Completes	122	1.00 (0.29, 3.44)	0.47 (0.08, 2.77)	0.65
Instructions	122	0.70 (0.12, 4.15)	3.46 (0.24, 50.3)	0.41

Odds ratio > 1 $\Rightarrow$ Improved attitude in medium / high support group
Odds ratio < 1 $\Rightarrow$ Improved attitude in low support group

The results indicate no strong evidence of a relationships between the amount of support received and attitudes to learning for any of the dimensions. There was some suggestion of a relationship between the amount of support and 'independent', but this was of only borderline statistical significance.

Similar analyses were performed for the Year 3 pupils, and the results are summarised in Table 4.2. Again the figures reported are in the form of odds ratios, indicating the odds of an improvement in attitudes to learning for those with a medium/high support relative to those with low support.

Table 4.2 - Effect of amount of support on Wave 1 Year 3 PAL measures (controlling for baseline attainment in English, SEN status, gender, eligibility for free school meals, ethnic group)

Outcome	N	Support (M- L) Odds Ratio (95% CI)	Support (H- L) Odds Ratio (95% CI)	P-value
Less distracted	141	0.40 (0.13, 1.29)	0.50 (0.06, 4.13)	0.31
Confident	150	0.61 (0.19, 1.96)	1.28 (0.18, 9.40)	0.58
Motivated	148	0.91 (0.30, 2.77)	0.30 (0.05, 1.89)	0.42
Not disruptive	149	2.29 (0.56, 9.35)	1.72 (0.15, 19.8)	0.51
Independent	150	0.46 (0.12, 1.70)	0.02 (0.00, 0.36)	0.03
Relationship	148	0.25 (0.03, 1.88)	0.35 (0.02, 5.18)	0.79
Completes	149	0.27 (0.05, 1.20)	0.02 (0.00, 0.31)	0.02
Instructions	148	1.39 (0.34, 5.68)	0.12 (0.09, 1.70)	0.17

Odds ratio > 1 $\Rightarrow$ Improved attitude in medium/high support group
Odds ratio < 1 $\Rightarrow$ Improved attitude in low support group

The results for Year 3 pupils indicated that after adjusting for characteristics of pupils, pupils with the greatest amount of support were likely to make less progress in working independently and completing assigned work. There was no effect of additional support for the remaining six attitudes to learning.

Similar analyses were performed for older pupils, examining the effects of additional support on PAL scores in Years 7 and 10. The results indicated no evidence of any statistically significant effects of for either year, and no significant interactions between additional support and SEN status were found.

ii) Wave 2

Similar analyses were performed at Wave 2 for Years 2, 6 and 9. Results for Year 2 and 6 showed no statistically significant effect of the amount of support on all eight measures of PAL for either Year 2 or 6. The results of the PAL measures for Year 9 pupils are displayed in Table 4.3.

Table 4.3 - Effect of amount of support on Wave 2 Year 9 PAL measures (controlling for baseline attainment in English, SEN status, gender, eligibility for FSM, ethnic group, income deprivation, EAL)

Outcome	N	Support (M- L) Odds Ratio (95% CI)	Support (H- L) Odds Ratio (95% CI)	P-value
Less distracted	329	0.72 (0.17, 2.99)	11.2 (3.55, 35.4)	<0.001
Confident	329	1.65 (0.61, 4.45)	6.70 (2.49, 18.0)	<0.001
Motivated	323	3.05 (1.12, 8.35)	4.22 (1.70, 10.5)	0.002
Not disruptive	328	0.91 (0.23, 3.66)	8.61 (3.09, 24.0)	<0.001
Independent	322	2.46 (0.84, 7.24)	8.42 (3.08, 23.0)	<0.001
Relationships	327	0.80 (0.20, 3.21)	8.89 (3.16, 25.0)	<0.001
Completes work	326	1.40 (0.52, 3.75)	3.40 (1.40, 8.24)	0.007
Instructions	326	1.43 (0.42, 4.84)	5.56 (2.11, 14.6)	0.001

Odds ratio > 1 $\Rightarrow$ Improved attitude in medium/high support group
Odds ratio < 1 $\Rightarrow$ Improved attitude in low support group

The results showed a highly significant effect of the level of additional support upon all eight of the positive approaches to learning outcomes. With the exception of pupil motivation and independence, there was little evidence of a statistically significant difference between pupils with a low and medium level of additional support, the main effects being between the pupils with a high level of support and those with a lower level of support. These were very marked effects. The odds ratios shown in Table 4.3 mean that the largest effect was a change toward being less distracted which was 11 times more likely with high levels of support compared to low levels of support. High levels of additional support led to pupils being 9 times more likely to develop good relationships with peers, be not disruptive and be more independent. Pupils were 7 times more likely to become more confident, 6 times more likely to follow instructions, 4 times more likely to become motivated and 3 times more likely to complete work.

The results for all three years indicated no evidence of a significant interaction between the level of support and SEN status, indicating that the effect of support on the PAL scores did not vary for those with differing SEN levels.

Results on the effects of the amount of additional support on the PAL measures are summarised in Table 4.4.

Table 4.4 - Summary of effects of amount of additional support on PAL measures. Waves 1 and 2

Wave	Year	Dist	Conf	Mot	Disr	Ind	Rel	Comp	Instr
1	1	✗	✗	✗	✗	✓ n	✗	✗	✗
	3	✗	✗	✗	✗	✓ n	✗	✓ n	✗
	7	✗	✗	✗	✗	✗	✗	✗	✗
	10	✗	✗	✗	✗	✗	✗	✗	✗
2	2	✗	✗	✗	✗	✗	✗	✗	✗
	6	✗	✗	✗	✗	✗	✗	✗	✗
	9	✓ p	✓ p	✓ p	✓ p	✓ p	✓ p	✓ p	✓ p

✗ = No significant effect of additional support
✓n = Significant negative effect of additional support
✓ p = Significant positive effect of additional support
Dist = not distracted; Conf = confident; Mot = motivated; Disr = not disruptive; Ind = independent;
Rel = relationships with peers; Comp = completes work; Instr = follows instructions

4.3 The effect of support staff on pupil academic progress

In this section the results on the effect of extra support on pupils' academic attainment are examined. In Wave 1 this was for pupils in Years 1, 3, 7 and 10, and in Wave 2 this was for pupils in Years 2, 6 and 9 (see Methodology section).

Explanatory variables included to control for other factors that might influence pupil attainment were similar to those used for the PAL analyses:

- Baseline attainment at start of the year (end of previous year)
- SEN status[15]
- Gender
- Eligibility for free school meals
- Ethnic group[16]
- Pupil age (Wave 2, Year 2 only)[17].

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[15] Numbers in the school action, school plus and statemented categories were not large and so they were combined into one group. A discussion of this classification of SEN with regard to the analyses of academic progress can be found in Appendix 6.
[16] Numbers in separate ethnic group categories were not large and so were combined into two groups. The 'white' group included White British, Irish, Traveller of Irish heritage, Gypsy/Roma and Any other white background. The White British group made up the vast majority of this group. The 'other than white' group comprised: White and Black Caribbean, White and Black African, White and Asian, Any other Mixed background, Indian, Pakistani, Bangladeshi, Any other Asian background, Black Caribbean, Black African, Any other Black background, Chinese and Any other ethnic group. All data were supplied by the DCSF.
[17] Data on age were only available for Wave 2 Year 2.

The following variables were also examined, but were available in Wave 2 pupils in England only:

- IDACI score

- EAL.

Data on pupil characteristics at Waves 1 and 2 was obtained through the School Census (formerly PLASC - Pupil Level Annual School Census).

Statistical methods

Two level multilevel statistical models were used, with pupils nested within schools. As the attainment scores were continuous, multilevel linear regression was used.

As with the PAL measures, a series of different models examined the impact of additional support upon attainment, both in terms of raw attainment and then sequentially adjusting for potentially confounding factors. For Wave 2 the following models were fitted:

- Model 1: No adjustments

- Model 2: Adjustments for baseline attainment

- Model 3: Additional adjustment for pupils characteristics measured in all schools (SEN status, gender, free schools meals and ethnic group)

- Model 4: Additional adjustment for pupils characteristics measured in English schools only (IDACI and EAL)

- Model 5: Additional interaction between SEN status and level of support.

Similar models were used for Wave 1 and 2 (though IDACI data was not available for Wave 1). As with the PAL measures, the analyses were performed in a series of stages, with an increasing number of variables controlled for, in line with the models above. In the interests of brevity only results from Model 3 are presented as this was the most complete and adjusted for the most number of potentially confounding variables. Results from Model 1 are too simplistic as they do not account for possible variables that could explain any differences. It was decided not to present the results for Model 4 for the Wave 2 data (i.e., the impact of additional adjustments for the IDACI score and English as additional language) as this would limit results to pupils in England only. In any case, adjusting for these variables in the English sample had little impact on the effect of additional support upon attainment. As stated above, as prior attainment was included these results in practice show the effect on academic progress over the school year.

The size of the interaction between SEN status and level of additional support was examined (Model 5). A significant interaction would imply that the effect of support upon attainment varied for pupils with different levels of special educational needs. The results of this analysis are presented only when a significant interaction was found.

The focus of the research was on the effects of additional support, so the regression models (both fixed and random effects) are not presented in full.

For Years 6 and 9 in Wave 2 there were different measures of academic outcomes. In the interests of brevity, only results from the outcome using National Curriculum levels are presented. The results from all outcomes were fairly consistent and the results from other outcomes are discussed below.

Readers who want to go straight to an overview of the main results could refer to the summary tables 4.9 and 4.10.

4.3.1 Wave 1 Results

A summary of results on pupil progress can be found in Table 4.9.

Wave 1 Year 1

Combined staff ratings of total additional pupil support

The combined measure of support from the teacher support ratings, supplemented where needed by other staff ratings, was used. As described in the Methodology section 2.2.2, support was divided into three groups: low (<10% of time supported), medium (11-50% of time supported) and high (>50% of time supported). Results for all four years groups in Wave 1 are shown in Table 4.5. This considers all pupils together; any interactions with SEN status are reported below.

Table 4.5 - Associations between combined staff ratings of total additional pupil support and pupil attainment (controlling for pupil characteristics: baseline attainment, SEN status, gender, eligibility for FSM, ethnic group). Wave 1

Year	Amount of support	English Estimate (95% CI)	Maths Estimate (95% CI)	Science Estimate (95% CI)
1	0% - 10%	0	0	0
	11% - 50%	-1.8 (-3.0, -0.7)	-0.3 (-1.5, 0.8)	-1.7 (-3.6, 0.2)
	51% +	-2.8 (-4.6, -1.0)	-2.3 (-4.0, -0.6)	-2.1 (-4.6, 0.4)
	p-value	0.002	0.02	0.13
3	0% - 10%	0	0	0
	11% - 50%	-2.6 (-3.9, -1.4)	-2.1 (-3.2, -1.1)	-1.1 (-2.4, 0.2)
	51% +	-3.8 (-5.9, -1.7)	-3.5 (-5.1, -1.8)	-1.4 (-3.7, 0.8)
	p-value	0.002	<0.001	0.20
7	0% - 10%	0	0	0
	11% - 50%	-1.6 (-3.4, 0.2)	-0.4 (-2.2, 1.3)	-0.7 (-3.0, 1.6)
	51% +	-4.2 (-6.2, -2.2)	-3.0 (-4.9, -1.1)	-2.6 (-5.4, 0.2)
	p-value	<0.001	0.007	0.19
10	0% - 10%	0	0	0
	11% - 50%	-1.6 (-3.4, 0.2)	0.0 (-0.5, 0.6)	0.4 (-0.4, 1.1)
	51% +	-4.2 (-6.2, -2.2)	-0.4 (-1.0, 0.1)	-0.3 (-1.0, 0.5)
	p-value	<0.001	0.19	0.35

Estimates represent the difference in attainment between each support group and those receiving the lowest amount of support

Results for Year 1 show the difference in attainment between both the medium and high support groups and the low attainment groups. The results showed a significant effect of support on pupil attainment in English and mathematics. The results for both subjects show that the higher the level of support, the lower the level of attainment. For English, those pupils with a medium

level of support obtained attainment scores that were almost 2 points less than those with a low level of support. Two points equate to one sublevel of the main National Curriculum levels (i.e. the difference between level 1B and 1C). There was a difference of roughly 3 units between the pupils with most and least support, about one and a half sublevels. For mathematics there was a slightly smaller difference between groups, with a difference of around 2 points between those with the highest and lowest support, equivalent to one National Curriculum sublevel. There was no effect of additional support on progress in science.

The effect of support on attainment in all three subjects did not vary between pupils with and without SEN.

Wave 1 Year 3

Combined staff ratings of total additional pupil support

Results are also given in Table 4.5. There was a significant effect of support on pupil attainment in English and mathematics. Both results show that the higher the level of support, the lower the level of attainment. The English results suggest that those with a medium level of support obtained attainment scores that were over 2 points less than those with a low level of support. Two points equate to one sublevel of the main National Curriculum levels (i.e. the difference between level 1B and 1C). There was a difference in English attainment of almost 4 units between the pupils with most and least support, almost two sublevels. The differences between groups for mathematics were of an equivalent size to those for English. There was no evidence of a statistical association between additional support and progress in science.

The effect of support on attainment in any of the three subjects did not vary between pupils with and without SEN.

Wave 1 Year 7

Combined staff ratings of total additional pupil support

Results are shown in Table 4.5. The results showed that for English and mathematics there was a significant effect of support upon pupil attainment. The higher the level of support, the lower the level of attainment. For English, those with a medium level of support obtained attainment scores that were almost 2 points less than those with a low level of support. Two points equate to one sublevel of the main National Curriculum levels (e.g., B to C). There was a difference of almost 4 units between the pupils with most and least support, almost two sublevels. For mathematics there was little difference in attainment progress between those with a low and medium amount of support. However, pupils with the highest level of support had scores that were 4 units lower than those with least support, equivalent to 2 National Curriculum sublevels. There was no significant effect of support upon attainment in science.

The effect of support upon attainment in any of the three subjects did not vary between pupils with and without SEN.

Wave 1 Year 10

Combined staff ratings of total additional pupil support

There was no effect of support on attainment in mathematics and science and no interaction between SEN status and level of support for these two subjects. There was an overall effect for English as seen in Table 4.5 but this time there was also a significant interaction between SEN status and level of support for English attainment. Results are shown in Table 4.6. For pupils both with and without SEN, a higher level of support was associated with a lower level of progress in English, though this effect was stronger for non-SEN pupils.

Table 4.6 - Impact of amount of support on English attainment (controlling for baseline attainment, SEN status, gender, ethnic group) Wave 1 Year 10 Interactions with SEN status

Subject	Number	Subgroup	Support (M- L) Estimate (95% CI)	Support (H- L) Estimate (95% CI)	P-value
English	100	Non-SEN SEN	0.6 (-0.5, 1.7) -1.0 (-2.0, -0.1)	-2.6 (-4.6, -0.6) -1.1 (-1.9, -0.4)	**0.02** **0.008**

Estimates represent the difference in attainment between each support group and those receiving the lowest amount of support

4.3.2 Wave 2 Results

Results for Wave 2 are shown in Table 4.7. This shows results for the three year groups, for all pupils combined, and also separately by SEN status where a significant interaction was found.

Table 4.7 - Associations between combined staff ratings of total additional pupil support and pupil attainment (controlling for pupil characteristics: baseline attainment, SEN status, gender, eligibility for FSM, ethnic group, income deprivation, EAL, pupil age). Wave 2 - Year 2

Year/ Subject	Amount of support	All pupils Estimate (95% CI)	Non-SEN Estimate (95% CI)	School Action Estimate (95% CI)	SA+/Statement Estimate (95% CI)
Year 2 English	0% 1% - 10% 11% - 25% 26% - 50% 51% +	0 -0.9 (-1.3, -0.4) -1.3 (-1.7, -0.8) -1.4 (-2.0, -0.9) -2.9 (-3.5, -2.3) **<0.001**			
Year 2 Maths	0% 1% - 10% 11% - 25% 26% - 50% 51% + p-value	0 -0.1 (-0.7, 0.5) -0.4 (-1.0, 0.2) -1.5 (-2.2, -0.8) -2.0 (-2.9, -1.2) **<0.001**	0 -0.5 (-1.0 , 0.0) -0.4 (-0.9, 0.2) -1.9 (-2.7, -1.2) -1.9 (-2.9, -0.9) **<0.001**	0 1.3 (-0.3, 2.9) -1.7 (-3.2, -0.2) -0.4 (-1.7, 1.0) -1.2 (-2.6, 0.2) **0.001**	0 0.2 (-2.0, 2.4) -0.4 (-2.5, 1.8) -1.7 (-3.8, 0.4) -4.3 (-6.0, -2.5) **<0.001**
Year 2 Science	0% 1% - 10% 11% - 25% 26% - 50% 51% + p-value	0 -0.0 (-0.8, 0.8) -0.2 (-1.0, 0.6) -0.5 (-1.4, 0.4) -1.6 (-2.7, -0.5) **0.01**			

Table 4.7 [continued] - Associations between combined staff ratings of total additional pupil support and pupil attainment (controlling for pupil characteristics: baseline attainment, SEN status, gender, eligibility for FSM, ethnic group, income deprivation, EAL, pupil age). Wave 2 - Years 6 and 9

Year/ Subject	Amount of support	All pupils Estimate (95% CI)	Non-SEN Estimate (95% CI)	School Action Estimate (95% CI)	SA+/Statement Estimate (95% CI)
Year 6 English	0%	0	0	0	0
	1% - 10%	-0.5 (-0.9, -0.2)	-0.5 (-.0, -0.1)	-0.1 (-1.1, 1.0)	-1.7 (-3.1, -0.5)
	11% - 25%	-1.1 (-1.5, -0.6)	-0.9 (-1.4, -0.3)	-0.6 (-1.7, 0.5)	-3.1 (-4.4, -1.8)
	26% - 50%	-1.5 (-2.0, -1.0)	-1.6 (-2.4, -0.8)	-1.0 (-2.0, 0.0)	-3.6 (-4.9, -2.2)
	51% +	-1.7 (-2.3, -1.1)	-1.1 (-2.1, -0.1)	-2.6 (-3.9, -1.3)	-2.9 (-4.3, -1.5)
	p-value	**<0.001**	**<0.001**	**0.002**	**<0.001**
Year 6 Maths	0%	0	0	0	0
	1% - 10%	0.0 (-0.5, 0.4)	-0.3 (-0.8, 0.3)	-0.3 (-1.5, 0.8)	2.1 (0.4, 3.7)
	11% - 25%	-0.9 (-1.5, -0.4)	-0.9 (-1.5, -0.2)	-0.7 (-1.9, 0.5)	-1.2 (-2.8, 0.4)
	26% - 50%	-1.4 (-2.1, -0.7)	-1.1 (-2.1, -0.2)	-1.1 (-2.3, 0.1)	-2.3 (-4.0, -0.7)
	51% +	-1.3 (-2.2, -0.4)	-0.6 (-1.7, 0.5)	-1.7 (-3.2, -0.1)	-1.8 (-3.5, 0.0)
	p-value	**<0.001**	**0.03**	0.21	**<0.001**
Year 6 Science	0%	0	0	0	0
	1% - 10%	-0.2 (-0.9, 0.6)	-0.1 (-0.9, 0.6)	-0.5 (-2.6, 1.7)	-0.8 (-3.2, 1.6)
	11% - 25%	-0.5 (-1.2, 0.2)	0.0 (-0.7, 0.8)	-1.2 (-2.9, 0.5)	-3.3 (-5.5, -1.1)
	26% - 50%	-1.3 (-2.2, -0.4)	-1.3 (-2.5, -0.1)	-2.5 (-4.1, -0.8)	-0.3 (-2.6, 2.0)
	51% +	-1.9 (-3.4, -0.4)	-9.6 (-14.2, -4.9)	-0.2 (-2.4, 2.1)	-3.6 (-5.9, -1.2)
	p-value	**0.03**	**<0.001**	**0.04**	**0.003**
Year 9 English	0%	0	0	0	0
	1% - 10%	-2.4 (-3.3, -1.5)	-2.4 (-3.5, -1.3)	-4.3 (-6.4, -2.2)	-1.0 (-3.1, 1.1)
	11% - 50%	-1.7 (-2.8, -0.7)	-4.0 (-5.4, -2.6)	0.0 (-1.7, 1.7)	0.8 (-1.5, 3.2)
	51% +	-1.7 (-2.8, -0.6)	-1.5 (-3.2, 0.2)	-1.1 (-2.9, 0.7)	-1.6 (-3.5, 0.3)
	p-value	**<0.001**	**<0.001**	**0.008**	0.16
Year 9 Maths	0%	0			
	1% - 10%	-1.3 (-2.2, -0.4)			
	11% - 50%	-0.5 (-1.7, 0.5)			
	51% +	-1.5 (-2.6, -0.5)			
	p-value	**0.003**			
Year 9 Science	0%	0			
	1% - 10%	-1.6 (-2.5, -0.7)			
	11% - 50%	-1.2 (-2.2, -0.3)			
	51% +	-2.3 (-3.2, -1.3)			
	p-value	**<0.001**			

Estimates represent the difference in attainment between each support group and those receiving the lowest amount of support
Results only presented for each SEN group where a significant interaction with level of support was found

Wave 2 Year 2

The figures reported in Table 4.7 are the mean difference in attainment scores between each group differing in terms of the amount of support (1-10%, 11-25%, 26-50% and 51%+) compared to the group with no additional support (0%). The results showed that for Year 2 there was a significant effect of additional support on pupil attainment in English, mathematics and science. The results for English showed that pupils with 1%-50% of support had attainment scores that were around 1 point less than those with no additional support. One point equates to half of one sublevel of the main National Curriculum levels (i.e. half the difference between level 1B and 1C). There was a difference of 3 points between the pupils with most and least support, equivalent to one and half National Curriculum sublevels.

The mathematics results showed little difference in attainment between those supported 0-25% of the time. However, pupils supported more than 25% of the time obtained lower attainment results. There was a difference of 2 units between pupils with the highest and lowest levels of support, equivalent to one National Curriculum sublevel.

Results for science indicated relatively small differences between pupils receiving 0-50% of support. However, pupils with the highest level of support (over 50%), had significantly lower attainment scores. There was a difference of 1.6 units between pupils supported over 50% of the time and those with no support, equivalent to just less than one National Curriculum sublevel.

The effect of support on attainment in English and science did not vary between pupils of differing SEN levels. However, there was a significant interaction between SEN status and level of support for mathematics as also shown in Table 4.7, where the figures given are the difference in attainment score between each support group and the group that had no support.

For the non-SEN group, pupils with more support made less progress in attainment, with a difference of almost two units, one National Curriculum sublevel, between the most and least supported pupils. The pattern was less clear for School Action group, but again the general trend was that pupils with more support made less progress. The biggest difference between those with most and least support was for the School Action Plus/statemented group, where there was a difference of around four units, i.e., two National Curriculum sublevels, between the pupils with the highest and lowest amount of support.

Wave 2 Year 6

A summary of the analysis results for Year 6, when fine-grain National Curriculum levels were used as the outcome measure, are given in Table 4.7. The figures reported are the mean difference in attainment scores between each attainment group and the group with no additional support (0%). For all three subjects there was a significant effect of support on pupil attainment for Year 6 pupils. Given that prior attainment is controlled for, all results show that the higher the level of support, the lower the level of progress.

The results for English indicated that pupils in the highest support categories (26%-50% and 51+%) made the least progress in attainment. Pupils in these categories had scores that were around 1.6 points lower than pupils with no support. This equates to just less than one National Curriculum sublevel (e.g. the difference between 4A and 4B).

Similar results were observed for mathematics, where the attainment scores for pupils with the highest amount of support were almost 1.5 units lower than pupils with no support. This equates to around three-quarters of one National Curriculum sublevel.

The science results also indicated that increased support was associated with lower attainment. There was a difference of around 2 units between the pupils with the most and least support. This equates to one National Curriculum sublevel.

Although the results are presented for the fine-grain National Curriculum levels, similar results were obtained when the raw attainment scores, and the broader National Curriculum levels were used as the outcomes.

There was also a significant interaction between SEN status and level of support for all three subjects. This suggests that the effect of support on attainment varied between pupils of differing SEN levels. As a result, the effect of support was examined for each SEN group separately, and the results for the three subjects are shown in Table 4.7.

For English there was a significant effect of support upon progress in attainment for all three pupil groups, with a negative effect of additional support for each. The nature of the interaction indicated smaller effects of additional support upon pupils with non-SEN, with the largest effect of additional support for School Action Plus/statemented pupils. The difference between the most and least supported pupils was around 1 unit for the non-SEN group, whilst this increased to around 3 units for the School Action Plus / statemented group. A difference of 3 units equates to around one and a half National Curriculum sublevels.

For mathematics there was a significant difference between the amount of support groups for the non-SEN and School Action Plus /statement groups. There was no overall significant difference between the five groups for the School Action pupils, but there was a similar trend in the data to the other SEN groups, and the lack of significance could be due to the smaller numbers in this group. The nature of the interaction was similar to that observed for English: the effects of support were more pronounced for pupils with a higher level of SEN. The maximum difference between the most and least supported pupils was around 1 unit for the non-SEN group, whilst this increased to around 2 units for the School Action Plus/statemented group. A difference of 2 units equates to an effect equivalent to one National Curriculum sublevel.

For science attainment, there was no clear pattern to the nature of the interactions, making the results a little difficult to interpret. For the non-SEN group there was little difference between pupils with no additional support and those supported up to 25% of the time. However, there was a large effect for the most supported pupils. For the School Action pupils the biggest difference was between the group with no support and those supported 26-50% of the time, but there was little difference between the no support and most supported groups. For the School Action Plus/Statemented pupils there was generally decreased attainment with greater support, although the exception was for the 26-50% group, whose attainment did not differ greatly from the group with no support.

Wave 2 Year 9

Results for Year 9 pupils are also given in Table 4.7. The figures reported are the mean difference in attainment scores between each attainment group and the group with no additional support (0%).

The results showed a significant effect of support on pupil attainment in English, with the greatest progress in attainment being made by pupils with no additional support. There was little difference between pupils who received support (i.e. little difference between the 1-10%, 11-50% and 51%+ categories). Pupils who had any support had scores that were roughly 2 points lower than those with no support, which equates to one National Curriculum sublevel.

There was also a significant overall effect of support on pupil attainment in mathematics. Generally an increased level of support was associated with decreased progress in attainment in mathematics. There was a difference of just over 1.5 units between pupils with the highest and lowest amount of support. This equates to three-quarters of one sublevel of the national curriculum levels.

Results for science also indicated a trend that a higher level of support was associated with lesser progress in attainment. The difference between the highest and lowest support groups was just over 2 units, equivalent to just more than one national curriculum sub-level.

For mathematics and science the effect of support on progress in attainment did not vary between pupils of differing SEN levels. In other words, there was a consistent negative effect upon attainment for those with and without SEN. However, there was a significant interaction between SEN status and level of support for English, and the results are shown in Table 4.7. The nature of this interaction was a little inconsistent. There were significant differences between support groups for the non-SEN and School Action groups, but no significant difference between support groups for the School Action Plus/statemented group. For the non-SEN group the least progress was made by the 11-50% group, whilst for the School Action group the least progress was made by 1-10% group.

4.3.3 Observation measures of support (Wave 1)

Wave 1 Year 1

In Wave 1 there were also four other measures of support, taken from the moment by moment observations conducted for the systematic observation study. Table 4.8 gives the significant results for all four variables used at each of the three year groups.

Table 4.8 - Associations between systematic observation support measures and pupil attainment (controlling for pupil characteristics, baseline attainment, SEN status, gender, eligibility for FSM, ethnic group) Wave 1

Year	Support measure	Subject	Pupil group	Estimate (95% CI)	P-value
1	Presence [1]	English	SEN	-3.6 (-6.2, -0.9)	0.008
	Presence [1]	Science	All	6.6 (2.7, 10.6)	0.002
3	Presence [2]	Science	Non-SEN	0.31 (0.01, 0.61)	0.04
	Proximity [3]	English	All	-2.7 (-4.2, -1.2)	<0.001
	Proximity [3]	Maths	All	-2.3 (-3.5, -1.0)	<0.001
	Proximity [3]	Science	All	-2.1 (-3.6, -0.6)	0.006
	Interaction [3]	English	Non-SEN	-5.1 (-7.3, -3.0)	<0.001
	Interaction [3]	Maths	All	-2.4 (-3.8, -1.1)	<0.001
	Interaction [3]	Science	All	-2.2 (-3.8, -0.6)	0.006
	Attention [4]	English	Non-SEN	-3.0 (-4.7, -1.3)	0.001
7	Presence [3]	English	All	-0.32 (-0.57, -0.08)	0.01
	Interaction [4]	English	Non-SEN	-4.1 (-7.2, -1.0)	0.009
10	Proximity [4]	English	All	-1.2 (-2.0, -0.4)	0.005

1) Estimate is difference between pupils supported >80% of time compared to <80% of time
2) Estimate is effect of increasing percentage of support staff presence by10%
3) Estimate is difference between pupils supported >10% of time compared to <10% of time
4) Estimate is difference between pupils supported any of the time of time compared to not at all

Support staff presence

The 'presence' of support staff in the classroom was the percentage of time in which a member of support staff was present in the classroom during observations, and it was categorised into two groups. In Table 4.8 the estimates indicate the level of attainment for pupils having support in the classroom greater than 80% of the time (high support) relative to pupils who have support less than 80% of the time (low support). This categorisation was used because although there was a spread across the whole range the distribution was skewed, i.e., many had a high percentage of presence, but a few had very little. To avoid those cases at either end of the range having an undue influence, the categorisation into two similar sized categories (high vs. low amount) was used.

The results show a significant interaction between SEN status and level of support for both English and mathematics. The nature of this interaction for English was that there was no effect of support on attainment for the non-SEN group, whilst SEN pupils who had a member of support staff present more often had lower attainment scores than pupils when support staff were less prevalent. For SEN pupils, the group who had a member of support staff present for over 80% of the time scored almost 4 points lower. This equates to nearly two sublevels of the National Curriculum levels. For mathematics, although the effect of support differed for those with and without SEN status, there was no significant effect for either group.

There was a significant effect of additional support on attainment in science, with those with a high level of support obtaining results that were 6 units higher than pupils with a lower level of support. However, it should be noted that these results were based on a smaller number of pupils.

Support staff proximity, interaction and attention

Results for the three other measures of support taken from the systematic observation study: support staff 'proximity' (when support staff were supervising a pupil either one-to-one or in a group); support staff 'interaction' (when the pupil was interacting with an adult and that adult was a member of support staff); and support staff 'attention' (when a pupil interacted with support staff and in addition the pupil was the focus of attention), all showed no significant effect on attainment at Year 1, and no evidence of an interaction between amount of support and SEN status.

Wave 1 Year 3

Support staff presence

Results on the 'presence' of support staff in the classroom, taken from the systematic observation study, as the measure of support, and the results are shown in Table 4.8. The estimates indicate the effect on pupil attainment of a 10% increase in the time a member of support staff was present.

The results indicated no effect of support on attainment in English. For mathematics, the effect of additional support varied between pupils with and without SEN but there was no significant effect for either group. There was also a significant interaction between support and SEN status for science attainment; for pupils with non-SEN there were higher scores for pupils with more support, whilst there was slight evidence that SEN pupils with more support had lower science scores.

Support staff proximity

The measure of support staff 'proximity', taken from the observation study (being supervised one to one or in a group), was divided into two equal sized categories, less than or greater than 10% of time with a member of support staff in proximity. A summary of the results is given in Table 4.8, where the estimates are the difference in attainment score between those with a larger amount of proximity compared to those with a smaller amount.

The results for all three subjects indicated that pupils who experienced more support staff 'proximity' obtained lower attainment. Their attainment results were at least 2 units lower than those with a lower amount of proximity for all subjects. This equates to a reduction in attainment of at least one National Curriculum sublevel for those with most support. The effect of support on attainment did not vary between pupils with and without special educational needs.

Support staff interaction

The effects of support staff 'interaction' with a pupil on attainment are summarised in Table 4.8. The estimates indicated the difference in attainment between pupils with greater than and less than 10% of support staff interaction.

There was a significant negative effect on mathematics and science attainment for pupils with more support staff interaction. Having a greater amount of interaction from support staff was associated with a decreased attainment of around 2 units for both subjects, equivalent to around one National Curriculum sublevel. This did not vary for pupils with and without SEN.

For English the effect of support staff 'interaction' on attainment varied between pupils with and without special educational needs. There was a greater effect of support staff interaction for the non-SEN group, with pupils with a large amount of support having attainment scores that were 5 units lower than those with little interaction. This equates to two and half national curriculum sublevels. There was also a negative, but smaller, effect of support staff interaction on English attainment in the SEN group. The result for this group was only of borderline statistical significance.

Support staff attention

Results for the effect of support staff 'attention' (interacting with a pupil and, moreover, the pupil is the focus of attention) upon attainment are shown in Table 4.8. The estimates indicate the difference in attainment between pupils who received some support staff attention relative to those who received none.

For English the effect of support staff attention varied by SEN group. There was a strong negative effect of support staff attention on English attainment for the non-SEN group, but no significant effect of attention for the SEN group. There was no effect of support staff interaction on attainment in mathematics and science and no significant interactions with SEN status.

Wave 1 Year 7

Support staff presence

The next set of analyses used the 'presence' of support staff in the classroom as the measure of support, and this measure was treated as a continuous variable (see Table 4.8). The estimates indicate the effect on pupil attainment of a 10% increase in time a member of support staff was present.

There was a significant effect of the presence of support staff in the classroom on attainment in English, with a 10% increase in the time a support staff was present resulting in attainment decreasing by a score of 0.3. This equates to a decrease in attainment of 3 units between a member of support staff always being present and never being present, equivalent to one and half National Curriculum sublevels.

There was slight evidence of a negative effect of support upon mathematics attainment (p=0.06), but no evidence of an effect on science attainment. The effect of support on attainment did not vary between pupils with and without special educational needs.

Support staff proximity

There was no evidence of a significant effect of support staff 'proximity' (taken from the systematic observations study) on attainment for all three subjects, and no evidence that the effect varied between pupils with and without SEN.

Support staff interaction

A similar set of analyses was performed to examine the effect of support staff 'interaction' on attainment (see Table 4.8). The figures show the difference in attainment between pupils who had some interaction relative to pupils with no interaction.

There was evidence of an interaction between support and SEN status for English attainment. There was a large, significant, negative effect of support staff interaction for the non-SEN pupils, but no significant effect for the SEN pupils.

There was no significant effect of support staff interaction upon attainment in either mathematics or science.

Support staff 'attention'

There was no evidence of an effect of support staff 'attention' on attainment for any of the three subjects.

Wave 1 Year 10

Support staff presence

The results showed no effect of support staff presence in the classroom upon attainment in all of the three subjects examined.

Support staff proximity

The effect of the 'proximity' of support staff upon attainment for Year 10 pupils was examined. Pupils were split into two groups, those with no support staff proximity and those with some support staff proximity. Table 4.8 shows the difference in attainment between both the two proximity groups.

There was a significant effect of support staff proximity on attainment in English for Year 10 pupils. A higher amount of support staff proximity was associated with a decrease in attainment. There was a difference between those with some proximity to support staff and those with no proximity of approximately one unit, which equates to one GCSE grade. There was no evidence of an effect of support staff proximity on attainment in either mathematics or science. For all three subjects the effect of support staff proximity did not vary by SEN status.

Support staff interaction

'Interaction' with support staff was divided into two groups, either no interaction with support staff, or some interaction. There was slight evidence of a negative effect of support staff interaction on English attainment, although this result was only of borderline statistical significance. There was no significant effect of support staff interaction on attainment in either mathematics or science.

Support staff attention

The results suggested no evidence of a statistically significant effect of 'attention' on attainment for all three subjects.

4.3.3 Wave 1 and 2 Results: Summary

By way of summary, the significant effects of the amount of extra support on pupil progress are summarised in Table 4.9. The table presents the results from the staff rating of the amount of extra support, because this was the most general measure, covering all the school year, and was used at both Wave 1 and 2. The results show there was a general tendency in Wave 1 for a negative relationship between the amount of 'additional' support over a school year and the progress made in English and mathematics, and in Wave 2 negative effect in all three subjects, even after controlling for the seven potentially confounding factors (prior attainment, SEN status, gender, pupil family income deprivation, ethnic group, pupil age, and English as an additional language.

Table 4.9 - Summary of effect of the amount of 'additional' support on pupil progress, controlling for Baseline attainment, SEN status, gender, eligibility for free school meals, ethnic group, income deprivation, EAL, pupil age) Staff rating measure of support. Waves 1 and 2

Wave	Year	English	Maths	Science
1	1	$\checkmark$n	$\checkmark$n	✗
	3	$\checkmark$n	$\checkmark$n	✗
	7	$\checkmark$n	$\checkmark$n	✗
	10	$\checkmark$n	✗	✗
2	2	$\checkmark$n	$\checkmark$n	$\checkmark$n
	6	$\checkmark$n	$\checkmark$n	$\checkmark$n
	9	$\checkmark$n	$\checkmark$n	$\checkmark$n

Key: ✗ = No significant effect of additional support
$\checkmark$n = Significant negative effect of additional support

We also summarise in Table 4.10 the results from the four measures of support taken from the systematic observation results at Wave 1. Though less clear, the trend was also for more support to be associated with less progress.

Table 4.10 - Summary of significant results, effect of systematic observation support measures on pupil attainment (Wave 1 only) controlling for pupil characteristics: baseline attainment, SEN status and gender

Year	Presence	Proximity	Interaction	Attention
1	$\checkmark^n$ eng $\checkmark^p$ sci	✗	✗	✗
3	$\checkmark^p$ sci	$\checkmark^n$ eng, mat, sci	$\checkmark^n$ eng, mat, sci	$\checkmark^n$ eng
7	$\checkmark^n$ eng	✗	$\checkmark^n$ eng	✗
10	✗	$\checkmark^n$ eng	✗	✗

Key: ✗ = No significant effect of additional support for any subject
$\checkmark^n$ = Significant negative effect of additional support
$\checkmark^p$ = Significant positive effect of additional support

4.4 Further examination of the effect of support staff on pupil attainment - Wave 2

Three further analyses were conducted to:

1. See if change in support over the year affected the relationship with progress

2. Conduct further analyses allowing for any possible bias in missing data from the study

3. Assess whether the other (unsupported) pupils in the class were affected by the support given to some pupils.

4.4.1 Additional adjustments for change in support

One possible explanation of the negative effects of additional support on pupils' academic progress might be that pupils might be allocated more support because they were falling behind. In Wave 2, teachers at Year 2, 6 and 9 were asked to report if the amount of support received in English lessons had changed over the year, with options being an increase, no change or decrease in the level of support. Analyses were performed to examine the effect of support upon attainment after accounting for the change in support during the year. The results indicated that controlling for the change in support had little impact upon the size of differences between additional support groups for all three subjects and for all three years. This result suggests that any negative effects of support cannot be attributed to pupils who were making less attainment progress being allocated more support.[18]

4.4.2 Further analyses allowing for any possible bias in missing data from the study

The statistical analysis of the effect of the amount of support on pupil attainment was performed using a 'complete case analysis'. This effectively requires a value for all variables for a pupil to be included, otherwise they are excluded from analyses. If data are missing at random this will not matter, as it will not affect the relationship between support and attainment, but if for some systematic reason data are missing then this may affect the relationship. To address this possible problem the multi-level regression analyses for Wave 2 were recalculated using 'multiple imputation methods' to impute missing values that occurred in the data. All variables were imputed where missing, including end of year attainment, baseline attainment, level of support and pupil characteristics.

Overall, there were relatively few differences between the results from the imputed analyses and the original analyses. Results for Years 2 and 6 again indicated a negative effect of support on attainment in English, mathematics and science, with the size of effects similar. The results for Year 9 pupils indicated similar results for science, but slightly smaller effects for English and mathematics. The result for English was still significant but the result for mathematics, while still in a negative direction, were no longer statistically significant. It is therefore concluded that the original results were not biased because of missing data.

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[18] We deal with other possible explanations of the relationship between amount of support and pupil attainment is the discussion section.

4.4.3 Effect of support in classroom on pupils with little support

Both the Wave 1 and Wave 2 results indicated that additional support was associated with a decreased level of attainment. However, one possibility is that whilst additional support may not be beneficial for supported pupils, the fact that some pupils in the class are supported may benefit unsupported pupils in the class (e.g. by allowing the teacher to focus more on the remaining pupils). This would be consistent with teachers' positive views about support staff in the classroom reported in this and previous reports from the project.

It was not possible to address this issue at Wave 1 because data on attainment and level of support was not collected for all pupils in the class. However in Wave 2, data for all pupils in the class was deliberately obtained in order to address this. The basic aim was to address whether pupils in a class receiving additional support had a positive or detrimental effect on the attainment of pupils in the same class who received little support. The way we approached this analysis was to focus on pupils with little or no support (i.e., pupils with either no support at all or pupils supported < 10% of the time), referred to here as 'low supported' pupils. These pupils were then divided into two groups depending on the percentage of all pupils in the class who received support. The first group was low supported pupils in classes where few pupils (<20%) received support (defined as 10% or greater). The second group was low supported pupils in classes where a larger percentage (>20%) received support. This definition was used at Year 6 and 9 but slightly revised for Year 2 because of the larger proportion of supported pupils then (the definition <25%, >25% was used). This approach means that there is in a sense a comparison group, which is the group of unsupported pupils in a class where no pupils (or very few) pupils received support. The teacher should have more time to support other pupils if some pupils are supported, and the aim was to see if this was reflected in greater progress.

The difference in attainment between these groups of unsupported pupils was examined after adjusting for baseline attainment and other pupil characteristics (equivalent to Model 3 described in the Methodology section), and the results for Years 2, 6 and 9 are summarised in Table 4.11. The estimates presented are the difference in attainment scores between low supported pupils in classes where the rest of the class received little support and low supported pupils in classes where the rest of the class received more support.

Table 4.11 - Difference in attainment scores between low supported pupils in classes where the rest of the class received little support and low supported pupils in classes where the rest of the class received more support. Wave 2 Years 2, 6 and 9

Year	Subject	Group	Estimate (95% CI)	P-value
2	English	Little class support Lot of class support	0 -0.2 (-0.9, 0.6)	0.70
	Maths	Little class support Lot of class support	0 -0.6 (-1.1, -0.2)	0.01
	Science	Little class support Lot of class support	0 1.0 (0.3, 1.6)	0.003
6	English	Little class support Lot of class support	0 -0.3 (-0.7, 0.1)	0.21
	Maths	Little class support Lot of class support	0 0.2 (-0.3, 0.6)	0.46
	Science	Little class support Lot of class support	0 -0.6 (-1.3, 0.1)	0.12
9	English	Little class support Lot of class support	0 -1.7 (-2.5, -0.9)	<0.001
	Maths	Little class support Lot of class support	0 -1.3 (-2.1, -0.5)	0.002
	Science	Little class support Lot of class support	0 -1.4 (-2.2, -0.6)	0.001

For Year 2 the results were different for the three subjects. For English there was no significant effect of the level of support that the rest of the class received for low supported pupils. This implies that support for other pupils in the class has little impact on the attainment levels of unsupported pupils.

The science results indicated that low supported pupils in classes where a lot of pupils received support obtained higher attainment scores than low supported pupils in classes where a lower amount of pupils received support. There was a difference of 1 unit between groups, equivalent to half of one National Curriculum sublevel. This result seems to back up the suggestion that support at this age is beneficial to the remainder of the class in science, if not, as we saw above, the supported pupils themselves.

The opposite result was observed for mathematics, where it was found that that low supported pupils in classes where other pupils were more likely to receive support had lower attainment than low supported pupils in classes where other pupils were less likely to receive support. There was a difference of 0.6 units between groups, equivalent to around a third of a National Curriculum sublevel. In other words, if pupils in the class received additional support this had a detrimental effect on the attainment of pupils in the same class even if they received little support.

The results for Year 6 indicated no evidence of a statistically significant effect for any of the three outcomes for each of the three subjects. This implies that support for other pupils in the class in Year 6 has little impact upon the progress in attainment of unsupported pupils.

For Year 9 the results were consistent across the three subjects. In all instances unsupported pupils (or pupils with little support) made less progress when a larger proportion of pupils in the class were supported compared to when fewer pupils in the class were supported. The difference in attainment between these two groups was roughly 1.5 National Curriculum levels, which equates to three-quarters of one National Curriculum sublevel. Although the teacher should have more time to support other pupils if some pupils were supported, this does not seem to be reflected in greater progress in the unsupported pupils.

Chapter 5: Report on Strand 2 Wave 2 case studies

Key findings

Structured Observations

- TAs spent the majority of their time supporting low ability / SEN pupils, and rarely worked with high and middle ability pupils.

- When both in-class and away from the class, TAs worked with pupils on a one-to-one basis and in groups more often than teachers, with the tendency for individual pupil support greatest in secondary schools and the tendency for supporting pupils in groups greatest at primary level.

- In both phases, TAs spent around a third of their time away from the classroom, working predominately with low ability / SEN pupils.

Strand 2 Wave 2 Case Studies

- TAs are the principal means by which teachers ensure that low ability/SEN pupils receive differentiated input, but some aspects of deployment and practice related to this can result in varying degrees of pupil separation (being cut off from their teachers, the curriculum and their peers) and dependency.

- In line with results from Strand 1 Waves 1-3, there was little opportunity for support staff to meet with teachers beyond brief and ad hoc handovers before, during or after lessons. The majority of support staff felt under-prepared for the tasks they carried out, picking up important subject and pedagogical knowledge 'in the moment', by tuning in to the teachers' whole class delivery, rather than via training or pre-lesson communication. Cover supervisors could go in to lessons 'blind'. Some support staff mitigated this by meeting with teachers in their own time.

- Role definition is complex and appears to transcend policy statements. Instead, support roles are shaped in the light of the perceptions, expectations, deployment decisions and practices of teachers.

Analysis of Teacher and TA talk

- Descriptions of talk across the whole lesson showed many differences in the talk of teachers and TAs to pupils. Teachers tended to organise groups of pupils while TAs organised individuals; teachers spent more time explaining concepts than TAs and TA explanations were sometimes inaccurate or confusing; teachers used prompts and questions to encourage thinking and check understanding while TAs more frequently supplied pupils with answers; teachers tended to use feedback to encourage learning while TAs more often were concerned with task completion.

5.1 Findings from the structured observations

Data for each five minute interval were the unit of analysis and descriptive statistics were calculated, along with a series of cross tabulations of key variables.

Curriculum subject

Table 5.1 shows that TAs in both phases were most often observed supporting pupils with English (32% in primary; 35% in secondary) and mathematics (27% for primary; 19% for secondary). Observations for support with science were much greater in secondary schools (14%) than in primary schools (2%).

There must be some caution over the conclusions one can draw from observations involving cover supervisors, as they were limited in number (197). Of the observations made, 35% were cover for science, 23% for arts subjects and 5% for English; the remaining 37% were – for most schools – non-core subjects (e.g. languages, technology/ICT and business studies).

Table 5.1 - Strand 2 Wave 2 Structured Observations. Curriculum subject x support staff type

	Primary		Secondary			
	TA		TA		Cover Supervisor	
English	192	32%	224	35%	9	5%
Maths	161	27%	118	19%	0	0%
Science	12	2%	86	14%	68	35%
Humanities / PSHE	71	12%	55	9%	0	0%
Modern languages	36	6%	9	1%	20	10%
Arts subjects	63	10%	20	3%	46	23%
Technology / ICT	28	5%	68	11%	30	15%
Other subjects	40	7%	57	9%	24	12%
Total	603	100%	637	100%	197	100%

Pupil ability

TAs were most often observed supporting low ability pupils and those with SEN[19] (70% of primary observations; 88% of secondary observations) (see Table 5.2). Support staff were observed working with high and middle ability pupils[20] infrequently (1% overall). There were more observations relating to support for a mix of abilities in primary schools (28%) than in secondary schools (12%), most likely reflecting the wider practice of seating pupils in groups at primary and of setting by ability at secondary. Cover supervisors' support was more spread across the ability spectrum.

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[19] Due to difficulties with fieldworkers being unable to obtain precise classifications for individuals, pupils of low ability, those registered as School Action or School Action Plus, and those with an SEN statement were grouped together for the purposes of analysis.
[20] Due to the small number of instances, pupils of high or middle ability are also grouped together.

Table 5.2 - Strand 2 Wave 2 structured observations. Pupil ability x support staff

| | Primary | | Secondary | | | |
	TA		TA		Cover Supervisor	
High / middle ability	8	2%	4	<1%	40	22%
Low ability / SEN	328	70%	442	88%	39	22%
Mixed ability	130	28%	54	12%	100	56%
Total	466	100%	500	100%	179	100%

Teachers working with pupils

A teacher was present in 60% of primary school observations and 65% of those in secondary schools. Researchers recorded the role taken by the teacher and found that in the vast majority of instances of teachers working with pupils were in whole class contexts, but the analysis in Table 5.3 includes a minority of instances where a teacher ran a specialist unit (e.g. inclusion centre) or led a booster group, for which pupils were withdrawn from a timetabled lesson or other activity that they might otherwise attend with their peers.

Two-thirds (67%) of observations were of primary teachers leading or delivering to the whole class (see Table 5.3). Secondary teachers did this slightly less (52%), spending more time 'roving' (28%; 23% for primary). (Teachers and support staff were defined as 'roving' when moving from pupil to pupil while pupils were engaged in a learning task, and the teacher was not delivering to the class.) Overall, there were few instances of teachers working with pupils on a one-to-one basis for sustained periods; that is for more than half of each observation block (e.g. 2½ minutes or longer). Primary teachers did this for just 2% of their time, whilst it accounted for a greater proportion of secondary teachers' time (11%). Instances of teachers working with groups were similar across the two school sectors.

Table 5.3 - Strand 2 Wave 2 structured observations. Teachers working with pupils x school phase

	Primary		Secondary	
One-to-one	7	2%	46	11%
Small group (2-5 pupils)	24	6%	27	7%
Medium group (6-10 pupils)	9	2%	5	1%
Roving	86	23%	114	28%
Leading whole class	256	67%	210	52%
Total	382	100%	402	100%

Support staff working with pupils

Researchers recorded the role taken by the support staff using the same category system as for teachers, with several more contexts added that were exclusive to support roles (e.g. 'listening to the teacher teach'). For each of these events, the location and the task being supported were also noted, together with the ability of the pupils they were working with. Information on pupil ability was provided by either the teacher or the TA, and in line with school records such as the SEN register. We concentrate firstly on the two broad categories that defined location, before examining the nature of the tasks that pupils were assisted with in each context.

Supporting pupils in the classroom

The roles support staff undertook when working in classrooms differed for each phase, reflecting previous findings from the DISS project (see Blatchford et al., 2008). Tables 5.4 and 5.5 present results for TAs (including cover supervisors) cross tabulated with pupil ability for primary and secondary schools respectively. As seen already, the majority of in-class support was for low ability/SEN pupils (74% overall), with this being more common in secondary schools (87%) than in primary schools (61%). In all, sustained support for high and middle ability pupils was almost non-existent (<1%).

Primary TAs spent more time working with groups (36% in total), and less time with pupils on a one-to-one basis (10%), whereas the reverse was true in secondary schools (12% with groups; 45% with pupils one-to-one). The results show that, in the main, TAs in both phases worked with small groups, but those in primary schools also supported pupils in medium-sized and large groups, which secondary staff did rarely. This trend is clear for all pupils and for low ability/SEN pupils when considered separately.

The single most frequent activity in primary schools (37%) involved TAs listened to the teacher teach, whilst providing additional explanation and reinforcement for the pupils they were sat with. TAs in secondary schools did this less often (20%). This figure is likely to be influenced by the greater amount of time that primary teachers spent delivering to the whole class, as reported above.

The structured observations showed that TAs 'roved' around the classroom for about a quarter of their time (22%) in secondary classrooms, whereas in primary schools they did this very rarely (4%). This supports findings from systematic observations in Strand 2 Wave 1 (Blatchford et al., 2008).

Cover supervisors roved the classroom in over half of all observations (53%) (see Table 5.6). The limited data on cover supervisors is insufficient to draw any solid conclusions, but the data available show they were more likely to interact with groups (12%) of pupils than on a one-to-one basis (4%). A second function that distinguished cover supervisors from TAs was leading the whole class, which they did for 28% of their time; researchers did not observe any secondary TAs/HTLAs engaged in this activity. Similar instances in primary schools largely comprised occasions of TAs leading the class as part of a school's lesson cover and/or PPA arrangements (7%) (see Table 5.4).

Table 5.4 - Strand 2 Wave 2 structured observations. Primary TAs working with pupils in-class x pupil ability

	High / middle ability		Low ability / SEN		Mixed ability		Total	
One-to-one	0	0%	32	17%	0	0%	32	10%
Small group (2-5 pupils)	0	0%	53	28%	9	8%	62	20%
Medium group (6-10 pupils)	0	0%	30	16%	4	3%	34	11%
Large group (10+ pupils)	0	0%	0	0%	14	12%	14	5%
Roving	0	0%	2	1%	11	9%	13	4%
Leading whole class	0	0%	0	0%	22	18%	22	7%
Listening to teacher - active	0	0%	70	37%	45	38%	115	37%
Other	0	0%	1	1%	15	13%	16	5%
Total	0	0%	188	61%	120	39%	308	100%

Table 5.5 - Strand 2 Wave 2 structured observations. Secondary TAs working with pupils in-class x pupil ability

	High / middle ability		Low ability / SEN		Mixed ability		Total	
One-to-one	0	0%	132	51%	1	3%	133	45%
Small group	0	0%	27	10%	4	12%	31	11%
Medium group	0	0%	4	2%	0	0%	4	1%
Roving	0	0%	39	15%	27	82%	66	22%
Listening to teacher - active	4	100%	54	21%	1	3%	59	20%
Other	0	0%	2	1%	0	0%	2	1%
Total	4	1%	258	87%	33	11%	295	100%

Table 5.6 - Strand 2 Wave 2 structured observations. Secondary cover supervisors working with pupils in-class x pupil ability

	High / middle ability		Low ability / SEN		Mixed ability		Total	
One-to-one	1	3%	0	0%	6	6%	7	4%
Small group	3	8%	1	3%	14	15%	18	11%
Medium group	2	5%	0	0%	0	0%	2	1%
Roving	18	46%	18	49%	55	58%	91	53%
Leading whole class	15	38%	14	38%	19	20%	48	28%
Other	0	0%	4	11%	1	1%	5	3%
Total	39	23%	37	22%	95	56%	171	100%

Supporting pupils away from the classroom

Instances of secondary TAs working with pupils away from the classroom and teacher comprised a third of all observations in this phase; the figure was slightly less for primary staff (30%). As can be seen in Tables 5.7 and 5.8, support away from the classroom almost always involved low ability / SEN pupils (89% primary; 100% secondary schools).

In primary schools, the majority of observations (75%) were of TAs supporting groups (49% for small groups; 24% for medium-sized groups; 2% for large groups). In 19% of observations support staff worked on a one-to-one basis with pupils. These trends were replicated in the data concerning only low ability / SEN pupils. In secondary schools, however, the reverse was true: 72% of observations away from the classroom concerned one-to-one support for low ability/SEN pupils, while in 22% of instances, TAs worked with them in small groups.

Table 5.7 - Strand 2 Wave 2 structured observations. Primary TAs working with pupils away from the classroom x pupil ability

	High / middle ability		Low ability / SEN		Mixed ability		Total	
One-to-one	2	25%	23	20%	0	0%	25	19%
Small group	0	0%	64	55%	0	0%	64	49%
Medium group	2	25%	29	25%	0	0%	31	24%
Large group	0	0%	0	0%	2	29%	2	2%
Roving	4	50%	0	0%	5	71%	9	7%
Total	8	6%	116	89%	7	5%	131	100%

Table 5.8 - Strand 2 Wave 2 structured observations. Secondary TAs working with pupils away from the classroom x pupil ability

	High / middle ability		Low ability / SEN		Mixed ability		Total	
One-to-one	0	0%	104	72%	0	0%	104	72%
Small group	0	0%	32	22%	0	0%	32	22%
Roving	0	0%	5	3%	0	0%	5	3%
Listening to teacher - active	0	0%	2	1%	0	0%	2	1%
Other	0	0%	2	1%	0	0%	2	1%
Total	0	0%	145	100%	0	0%	145	100%

In Table 5.9 we summarise the contexts in which teachers and TAs work with pupils, It shows the extent to which teachers' interactions with pupils are weighted towards the whole class level (e.g. roving and leading whole class), whilst pupil-TA interactions take place on an individual or personal basis (e.g. one-to-one and group work). This supports the systematic observation findings reported in Strand 2 Wave 1.

Table 5.9 - Strand 2 Wave 2 structured observations. Teacher and TAs working with pupils (both in-class and away from the classroom) x school phase

	Primary				Secondary			
	Teacher		*TA*		*Teacher*		*TA*	
One-to-one	7	2%	57	19%	46	11%	237	63%
Small group	24	6%	126	41%	27	7%	63	17%
Medium group	9	2%	65	21%	5	1%	4	1%
Large group	0	0%	16	5%	0	0%	0	0%
Roving	86	23%	22	7%	114	28%	71	19%
Leading whole class	256	67%	22	7%	210	52%	0	0%
Total	382	100%	308	100%	402	100%	375	100%

Differentiation of task

Researchers noted whether the 'physical task' (e.g., worksheet) that support staff were assisting pupil(s) with was the same as, differentiated or completely different from the task the majority of the class were undertaking[21]. In particular, researchers wanted to know the extent to which tasks were differentiated for low ability / SEN pupils (when supported by TAs), and whether there were any differences when physical location was taken into account.

For the vast majority of instances in class, low ability / SEN pupils were not given a differentiated task (90% for primary; 87% for secondary) (see Tables 5.10 and 5.11). For 10% of instances in both phases, TAs supported these pupils with a differentiated task. It is worth noting that classes set by ability are likely to have less variation in ability than mixed ability classes, and there is therefore likely to be less need for task differentiation. Setting is most likely in secondary schools.

Differentiated or different tasks were more commonly supported when low ability / SEN pupils were away from the classroom (see Tables 5.12 and 5.13). In 87% of these instances in secondary schools, such pupils were known to be doing a different task from their peers. In primary schools, this occurred less often (69%). Instead, low ability / SEN pupils at primary level

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[21] Note: in this respect, the definition of 'differentiation' used in this analysis is different to that used in the systematic observations described in the Strand 2 Wave 1 report.

were more likely to be working on the same task their peers were doing in classroom (20%; 13% for secondary).

Many low ability / SEN pupils were supported in at least one intervention strategy. Those in secondary schools in particular were often withdrawn from non-core subjects to work on their basic literacy and numeracy skills (such a scenario constituted a 'different' task).

Seventeen percent of observations in each phase related to TAs supporting or leading intervention programmes for low ability/SEN pupils. In almost all of these cases, the sessions were held away from the classroom (92% in primary; 90% in secondary), and without a teacher present (99% in primary; 90% in secondary).

Cover supervisors supported pupils across the ability range in non-differentiated tasks only. Although the number of instances overall is small, the absence of any task differentiation may suggest something about teachers' planning for lessons that are led by support staff in their absence.

Table 5.10 - Strand 2 Wave 2 structured observations. Primary TAs working with pupils in-class: task differentiation x pupil ability

	High / middle ability		Low ability / SEN		Mixed ability		Total	
No differentiation	0	0%	169	90%	113	97%	282	93%
Task related / differentiated	0	0%	18	10%	4	3%	22	7%
Different task	0	0%	0	0%	0	0%	0	0%
Total	0	0%	187	62%	117	38%	304	100%

Table 5.11 - Strand 2 Wave 2 structured observations. Secondary TAs working with pupils in-class: task differentiation x pupil ability

	High / middle ability		Low ability / SEN		Mixed ability		Total	
No differentiation	4	100%	224	87%	27	100%	255	89%
Task related / differentiated	0	0%	25	10%	0	0%	25	9%
Different task	0	0%	8	3%	0	0%	8	3%
Total	4	1%	257	89%	27	9%	288	100%

Table 5.12 - Strand 2 Wave 2 structured observations. Primary TAs working with pupils away from the classroom: task differentiation x pupil ability

	High / middle ability		Low ability / SEN		Mixed ability		Total	
No differentiation	0	0%	23	20%	0	0%	23	18%
Task related / differentiated	8	100%	12	11%	7	100%	27	21%
Different task	0	0%	78	69%	0	0%	78	61%
Total	8	6%	113	88%	7	5%	128	100%

Table 5.13 - Strand 2 Wave 2 structured observations. Secondary TAs working with pupils away from the classroom: task differentiation x pupil ability

	High / middle ability		Low ability / SEN		Mixed ability		Total	
No differentiation	0	0%	16	13%	0	0%	16	13%
Task related / differentiated	0	0%	0	0%	0	0%	0	0%
Different task	0	0%	108	87%	0	0%	108	87%
Total	0	0%	124	100%	0	0%	124	100%

Support staff not working with pupils

Researchers observed support staff in a variety of contexts, some of which did not bring them into direct contact with pupils. Instances of sustained inactivity during periods when they were working with pupils were also recorded under this heading.

Overall, secondary TAs spent twice as much time not working with pupils (20% of all observations) than their primary colleagues (11%). For cover supervisors, this figure was 6%. During periods away from pupils, support staff mostly did administrative tasks or prepared resources. For a few TAs, such tasks were done as part of their own planning and preparation time.

In terms of inactivity while supporting pupils in class, there was a distinct difference between the phases. When we tallied instances where TAs were in 'audience mode' with the pupils – that is, listening to the teacher deliver to the class – those in secondary schools spent much more time being passive and not interacting with pupils (45%) compared with their primary counterparts (4%) (see Table 5.14).

Table 5.14 - Strand 2 Wave 2 structured observations. TAs listening to the teacher teach x phase

	Primary		Secondary	
Listening to teacher - inactive	5	4%	51	45%
Listening to teacher - active	136	96%	63	55%
Total	141	100%	114	100%

5.2 Strand 2 Wave 2 case study data

Five dimensions of interest were developed and refined following the pilot phase of the Wave 2 case studies, and this was used as the framework for organising data from open-ended observation notes, interviews and documentation. The dimensions were:

A. Conditions of employment of support staff

B. Preparedness of support staff

C. Support staff deployment

D. Support staff practice

E. Conceptualisations of pupil progress in relation to support staff.

The data analysis strategy was to collate all data within the dimensions, organising data into sub-dimensions according to an agreed coding frame. The coding frames were developed by two researchers through a process of independent coding of a sample of the dimensions of interest tables, followed by a comparison of analyses and a final agreed set of codes for each dimension. Prevalences and percentages of each code were then calculated.

Interview data was mostly coded at the individual respondent level. However, Dimension A was different in that factors concerning senior management decisions regarding support staff management and their conditions of employment tended to be referred to at the organisational level, and so were more appropriately captured as a per school factor, rather than a per individual factor. All data at Dimension A were therefore coded at the school level. There were two additional factors that explain the comparatively low frequencies for Dimension A: the Wave 2 case studies were set up to focus the bulk of attention on Dimensions B to E; and ii) unlike these Dimensions, which also drew on observation data, Dimension A drew only on interview data.

Dimensions B to E, on the other hand, covered personal, and at times conflicting, perspectives on preparedness, deployment, etc, as experienced by individual staff in each school. The data were therefore coded at the individual respondent level in order to avoid misrepresenting the rate of occurrences of a particular event, issue or circumstance. There were therefore a higher number of responses in total. Table 5.15 shows the frequencies and proportion of instances for each dimension that were coded at the school level and individual respondent level.

Table 5.15 - Strand 2 Wave 2 Case Studies. Frequencies and proportion of instances for each dimension that were coded at the school level and individual respondent level

Dimension	Total instances	Instances coded at school level		Instances coded at individual respondent level	
	N	N	%	N	%
A. Conditions of employment	52	52	100	0	0
B. Preparedness of support staff	736	51	7	685	93
C. Support staff deployment	865	90	10	775	90
D. Support staff practice	580	17	3	563	97
E. Conceptualisations of pupil progress	255	5	2	250	98

During the analysis of dimensions, and as a result of continuous discussion between researchers about the emerging data, a set of issues from each dimension were also identified. Dimensions and issues differed in that, whilst the dimensions were descriptive of the data collected, and reflected the prevalence of material, the issues identified overarching points across the data within each dimension.

Issues and sub issues were derived through careful scrutiny of data produced for each dimension and summary tables are presented below for each of the five dimensions. There were a few cases where data did not fit into issues and sub issues and these are labelled 'other instances' in the tables. In the interests of space we only present data on issues, but it is important to stress that these tables were exactly and numerically based on data in the dimensions tables (i.e., all dimension data was allocated to, or recoded as, issues), not on an interpretive and impressionistic analysis, as is often the case.

In this section we concentrate on the issues within each dimension, supported by numerical information from the tables and extracts from interview transcripts and observation records.

5.2.1 Dimension A: Conditions of employment of support staff

Two issues emerged for this dimension (see Table 5.16).

Table 5.16 - Issues in relation to the conditions of employment of support staff (school level data)

	Primary		Secondary		Total	
	n	%	n	%	n	%
Issue A.1 The goodwill of support staff						
Support staff goodwill	8	47%*	6	67%	14	54%
Payment for additional hours worked	5	30%*	2	22%	7	27%
Support staff with HLTA status	4	24%*	1	11%	5	19%
Total for Issue A.1	17	65%**	9	35%**	26	**50%+**
Issue A.2 Many support staff are not included in formal line management or performance review processes						
Support staff part of formal line management/performance reviews	5	63%	3	43%	8	53%
Support staff not part of formal line management/performance reviews; informal systems	3	38%	4	57%	7	47%
Total for Issue A.2	8	53%	7	47%	15	**29%+**
Other instances	5	45%	6	55%	11	**21%+**
Total for Dimension A issues	30	58%	22	42%	52	**100%+**

* %s for sub-issue cells add up to 100%, per phase and Total
** Proportion of instances at primary and secondary phase
+ sum of % Total for each issue and % Total of Other instances

Issue A.1 - The goodwill of support staff

Findings from the Strand 2 Wave 1 case studies revealed that the goodwill of support staff was 'clearly indispensable to the remodelling process' (Blatchford et al., 2008, p74). As Table 5.16 shows, eight of the nine primary schools, and six of the nine secondary schools in the sample, showed some evidence of a reliance on the goodwill of support staff to meet with teachers, do lesson planning and preparation, attend training, and/or work with pupils in their own unpaid time. Altogether, only half of these schools (n=7) recompensed support staff in the form of extra pay or time off in lieu. This finding is in line with the numerical data from the questionnaire surveys as part of Strand 1 Waves 1-3 (see Blatchford et al., 2009).

As in Strand 2 Wave 1, the interviews with headteachers revealed the extent to which they were aware of, and managed, support staff's goodwill.

> *"TAs nowadays are loyal to the school partly because their kids went here or they live just round the corner...You don't want to be exploitative... Occasionally to ask for the goodwill is all right. And if someone wants to do it...I think when it becomes a problem is when it becomes part of the culture and lots of other people do and then it becomes hard for someone to say, 'Well, actually, I'm not doing that".*
> **Primary assistant headteacher**

> *"I don't expect them to stay behind for meetings if they're not paid for it. A lot of them volunteer to do extra...But no, I would never expect it. The department meetings are fitted within their time budget".*
> **Secondary headteacher**

> *"I would never ask them to do that [work extra hours, unpaid], but quite often they offer...particularly the statemented TAs, because I think they feel an attachment to the child".*
> **Primary headteacher**

Some TAs gave reasons why they were willing to work additional unpaid hours:

> *"I start at nine o'clock officially. But the students are here at half-past-eight, so we tend to be here at about half-past-eight...I'm contracted to 32 hours...[TAs do] probably about 15 to 20 percent over and above our hours. Now I can't say it is expected of us to do it, but we are relied upon. I think the job would be impossible to do if you didn't have that time".*
> **Secondary TA**

A number of primary headteachers, who had TAs with HLTA status, did not employ or pay them as such, yet deployed them to do HLTA-type duties (n=4). In almost every case, the decision not to recognise HLTA accredited staff in this way was based on the school being unable to pay the TAs consistently at the higher hourly rate.

> *"I have one TA who is qualified as an HLTA, but she's not employed as an HLTA. She was working here anyway and she got the qualification but she knew it wouldn't necessarily attract a higher rate of pay".*
> **Primary headteacher**

Those TAs (HLTA accredited or not) deployed to lead a class as part of a school lesson cover or PPA arrangements were paid twice their hourly rate for these periods.

Some headteachers lacked faith in the purpose of the HLTA role which deterred them from appointing them. However, evidence from one secondary headteacher suggests that these decisions may have been based on a misunderstanding of the HLTA role.

"Originally when they first came out, like every school we thought let's try them…but they don't work, and the two that we had prior to [cover supervisor], when they left, we decided not to reappoint; we decided to go down the cover supervisor route. And [cover supervisor] was a cover supervisor who wanted to train as an HLTA. She knows that she's a cover supervisor, but it's extra for her as a qualification she's got. She wanted to use it and go somewhere, but you tend not to find many HLTAs advertised now, do you?...It's a fad that's gone away".
[Researcher: What was your experience of having HLTAs?]
"It wasn't good, no. I don't think the training was good. Cover supervisors are far better".
Secondary headteacher

One school had a stronger understanding of the employment and deployment of HLTAs.

"[HLTA's] level of salary is higher than the other support staff – considerably higher. And she's paid for that throughout the whole week; there's no difference…she doesn't get paid that just when she works it...The rationale was the fact that she could always be relied on to take a class…so when we were thinking about supply cover costs of £155 at least per day, I was then able to say to this person, 'If somebody is off sick, I need to call you from where you are and what you're doing to take that class'…In the long term, I'm probably saving".
Primary headteacher

Issue A.2 - Many support staff are not included in formal line management or performance review processes

Twenty-nine percent of instances in this dimension concerned the inclusion of support staff in staff management and review structures. The proportion of schools that included support staff in formal line and / or performance review systems (n=8) were only marginally higher than those who were not (n=7).

"We ask them [TAs]: what areas of work do they think is going well; what they think is not going so well; areas that they'd like to develop professionally. And then what we do from that is…we ask the TAs to set three targets: working with pupils; a whole school target; and a professional development target. And this comes from them. What we try to do is try to give them ownership over their targets, because the theory being, if they have ownership over them, they're more likely to see it through".
Primary headteacher

"We've been doing it for six, seven years, so we've been able to help them through performance management; give them what they need...It's the SENCO's responsibility…She is supposed to go out and check what happens in the classroom, identify needs, and then also does it through performance management. And then she sets up their needs, their development...and she should deliver it in whatever way we need to do it".
Secondary headteacher

There was a tendency towards the use of informal arrangements in some schools, resulting in the likelihood that whilst there was a sense of working towards targets, achievement was not measured by well-defined standards or by way of a systematic process.

"Performance management operates in a variety of ways...I, with the business manager, she sets objectives, we review them on an annual basis, in some senses like the teacher scheme but without the classroom observation. There are varying degrees of that".[22]
Secondary headteacher

On the other hand there was an understanding of the need for a structured approach to line management and performance appraisal for support staff, given that not only were there increasing numbers working in schools, but the roles of pupil-based support staff in particular had become more professional.

"Performance management and line management structures have been, let's say, impoverished by the fact that schools have not been required to put them in place. They're managed, but effectively, they haven't been as well managed as they might have been. We've been fortunate in building a nice community in which those - largely women - have felt comfortable to work between nine and three…It suited their hours. As time has gone on, so the need to develop their skills, to reform the workforce...and to use teaching assistants rather more has become an imperative. An imperative because we don't want to lose those skills, and an imperative because the external inspection and the requirements for good management for schools looks towards - requires that - schools put in place stronger structures".
Secondary headteacher

5.2.2 Dimension B: Preparedness of support staff

This dimension focuses on the training and preparation support staff received in relation to both their day-to-day work and broader development. Issues regarding preparation were a key thread running through the themes reported in Strand 2 Wave 1 (e.g. meetings and training), and also Strand 1 Waves 1-3 (e.g., in terms of planning and feedback time with teachers) and warranted further exploration in Wave 2. Findings so far suggest that the extent to which support staff are prepared for their roles is a key factor in effective deployment. Sub-dimensions of this dimension covered: induction and staff training (e.g. Inset and qualifications); support staff's knowledge and training in relation to school subjects and pedagogy; the lesson planning and feedback loop, and communication with teachers. Three issues emerged from the analysis of these data (see Table 5.17).

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[22] Although the term 'performance management' was sometimes used in schools to refer to support staff, it should be noted that the term only applies to teachers; the preferred term for support staff is 'performance review'.

Table 5.17 - Issues in relation to support staff preparedness (individual respondent level data)

	Primary		Secondary		Total	
	n	%	n	%	n	%
Issue B.1 There were limited opportunities for support staff to meet with teachers for lesson preparation and feedback						
No/limited time for teachers and support staff to meet; liaison was ad hoc	81	43%	89	45%	170	44%
Time set aside for teachers and support staff to meet	14	7%	11	6%	25	6%
Use of written communication	14	7%	16	8%	30	8%
Support staff preparedness was good: talk with teacher; detailed lesson plan	26	14%	17	9%	43	11%
Support staff preparedness is minimal: talk with teacher; no detailed lesson plan	38	20%	29	15%	67	17%
Support staff preparedness was poor: no talk with teacher; no lesson plan	16	8%	38	19%	54	14%
Total for Issue B.1	189	49%	200	51%	389	**53%**
Issue B.2 Important pupil information provided by support staff is underused in teachers' wider planning, assessment and classroom interactions						
Support staff involved in planning	25	36%	15	28%	40	33%
Support staff not involved in planning	24	35%	17	32%	41	34%
Support staff feedback was used by teachers	16	23%	13	25%	29	24%
Support staff feedback was not used by teachers	4	6%	8	15%	12	10%
Total for Issue B.2	69	57%	53	43%	122	**17%**
Issue B.3 Support staff gain subject and pedagogical knowledge via on-the-job experience						
Support staffs' pedagogical / subject knowledge was experiential	49	48%	51	50%	100	49%
Support staff gain pedagogical / subject knowledge via training	20	19%	27	26%	43	21%
Support staff gain pedagogical / subject knowledge via communication with teacher(s)	22	21%	16	16%	38	18%
Support staffs' pedagogical/subject knowledge was lacking or is not required	12	12%	13	13%	25	12%
Total for Issue B.3	103	50%	103	50%	206	**28%**
Other instances	11	58%	8	42%	19	**3%**
Total for Dimension B issues	372	51%	364	49%	736	**100%**

Issue B.1 - There were limited opportunities for support staff to meet with teachers for lesson preparation and feedback

The majority of instances within the dimension of preparedness (53%) concerned the opportunities support staff and teachers had to communicate and plan, prepare for and feedback on lessons and intervention sessions, and the effect this had on how prepared support staff were for the tasks they undertook.

The bulk of these instances (44%; 23% for the dimension overall) repeat the Strand 1 Waves 1-3 and Strand 2 Wave 1 finding that opportunities to discuss lesson objectives, tasks and pupil performance and behaviour were limited. Communication – if it happened at all – most often took place during lesson changeovers or at break or lunch times, and tended to be very brief. Creating time had several implications.

> *"The problem is always, for teachers, it's time. They haven't got time at the end of the lesson necessarily to spend ten minutes discussing something with the LSA. And then a lot of our staff are part-time, so finding people can be a difficulty. And as we know, staff are busy at lunchtime and after school".*
> **Secondary teacher**

> *"First of all when would we do it? [TA] would have to be paid extra money after school or before. When would it happen?..It would be too time-consuming for me...You have to remember that time is a constraint. And the more time you take out for planning, then the less time you have for assessment, the less time you have for marking, the less time you have for preparation".*
> **Primary teacher**

Overall, more of the teachers interviewed for the Wave 2 case studies – particularly those in primary schools – expressed a desire for some or more dedicated liaison time, compared with support staff. More support staff compared with headteachers and teachers (especially in secondary schools) suggested that there was no need for such a measure.

> *"Because I've been doing the job for so long, and the work rolls over year to year, within five minutes of the lesson I can pick up what's being done".*
> **Secondary TA**

Some school leaders were open about how the lack of time for communication between teachers and TAs bothered them.

> *"The area of communication I don't honestly think we're very good at, is between teacher and teaching assistant about a lesson".*
> **Secondary headteacher**

> *"I am conscious also, from a senior position, that maybe it would be ideal to have a little bit of time. But we haven't actually looked at it - I haven't looked at it - from, say, the other teachers' positions. If I was teaching a class and standing up and teaching a subject, and it was more a case of listening to me and passing on that information, it would be tricky if they hadn't been aware of whatever...But I don't know that they've necessarily expressed a concern about that...It works two ways".*
> **Secondary assistant headteacher**

Very few schools therefore had timetabled slots within the school day for teachers and support staff to meet, although a few gave some support staff non-contact time of their own or scheduled specific meetings to which they were invited (6%).

> *"We have a planned schedule of assembly times when teachers cannot be in assembly and have time out with their TA, so they use that short time. I always tell teachers, when they're planning their TA timetable, bearing in mind they've got 25 hours, to plan at least one before-school or one after-school session when they can sit down...with their TA to go through their planning. And certainly the TAs have said it's absolutely marvellous, because they understand completely the planning, they understand completely the planning file, and if the teacher is ill and a supply teacher comes in, they talk the supply teacher through what's happening".*
> **Primary headteacher**

Perhaps not surprisingly - and as the comment above demonstrates - there was a knock-on effect for support staff in terms of how prepared they felt they were for their roles, particularly those in secondary schools. Forty-two percent of the instances for this issue concerned the quality of preparedness, and 74% of these instances described support staff as receiving minimal or poor guidance from teachers. There was little detail about the specific role teachers wanted TAs to take in a lesson or task when supporting low ability / SEN pupils.

One primary TA said that she was given a copy of the class teacher's weekly lesson plans, but, "It doesn't say who I'm working with, what I'm meant to be doing. It just says what the whole class is doing". In the absence of any further explanation from the teacher, the TA described how she had to 'tune in' to the lesson in order to pick up essential content. Such evidence adds to the notion that much of TAs' work is 'on the hoof'.

> *"[The teacher] puts up the work on the board, I'm then frantically trying to go through it to try and think of different ways to explain it to [SEN pupil]".*
> **Primary TA**

This was a familiar situation described by many TAs in both phases, with some claiming that this put them under pressure.

> *"If you're going in and you haven't got a clue what's being covered, you're as blind as the children or even more so sometimes".*
> **Secondary TA**

Cover supervisors also described going in to lessons 'blind', and the implications lack of preparedness had for them could be significant in terms of managing behaviour and ensuring that pupils produced some work.

> *"There are some staff who have totally embraced it; understand the role of a cover supervisor and do everything they can to make sure that the cover supervisor has everything they need...But there are some who don't truly understand the role of a cover supervisor and abuse it...There's no preparation there with some teachers...Where the cover supervisor has problems it's because the teacher's planning is poor".*
> **Secondary headteacher**

"The vast majority of the time you just walk in blind; so it's just really go into the room...It's really, really rare we get someone coming down saying, 'You've got my lesson. This is what I want you to do'. That happens about once every 20 lessons; not very often at all... So we don't really get that much back story, if you will, for the lessons".
Secondary cover supervisor

In 11% of instances, the level of preparation was more thorough. A few schools had developed systems that took account of the shortage of liaison time, and tended towards the use of written forms of communication as a way of imparting instructions and/or giving feedback (8%). Lesson information for cover supervisors relied on such procedures, although as indicated above, the quality of this information varied.

One of the aims of the Strand 2 Wave 2 case studies was to identify and report examples of good practice in the deployment and organisation of support staff. To this end, highlighted below are examples from two primary schools that had established a planning policy, which ensured that teachers made explicit the role they wanted TAs to take in a lesson. The comments below demonstrate how their systems worked, the rationale behind them and the benefits they brought to the users.

"The way funding is at the present moment…it can be really difficult to get an LSA. So when you've got someone with you for half the time you should capitalise on that as much as you can really...[So] for us, this [the planning sheet] is a form of communication. I outline to [LSA] briefly what I want her to do so she knows at the start of the week roughly how her week's going to go...Then she fills in for me how that session went, so then I've got notes on how that child did. Obviously [LSA] tells me verbally as well… But really it's a really great form of communication for us... I can make sure here that every session I have [LSA] with me, I've covered something. I know what she's going to do in that session. Because I can imagine there'd be nothing worse for her than if she walked in the room and I went, 'Oh, I don't know what you're doing'".
Primary teacher

"My whole week is clear from this, what I'm expected to do...It will be more or less the same: the name or a group of people that I'm working with every week...I'll comment...and that's [teacher's] feedback. If we don't get the chance at the end of the day to feedback, she's got it written...It's beneficial obviously, and the more communication there is between the teacher and their support staff, I think the easier it is for the children...So I benefit from this a lot".
Primary TA

These extracts indicate that where liaison time was limited effective written communication systems encouraged and allowed feedback. Particularly effective were instances where teachers made a feature of including TAs in their planning, and were founded on the understanding that this was necessary for TAs and pupils rather than simply beneficial.

As mentioned above, communication and preparation procedures for cover supervisors varied within schools; some departments or teachers made more effort than others. As one headteacher pointed out, it was in the teachers' own interests to provide satisfactory instruction and work for cover lessons.

"Because in the end, when they come back, they have to pick up the pieces, don't they. So they need to get it right in order to make it easier for them".
Secondary headteacher

The school led by the headteacher above had implemented a monitoring system in an attempt to establish consistency. Cover supervisors rated aspects of the preparation, the material left by the teacher, and the lesson itself.

"[Teachers] don't get to see the grading sheets...They are given to [cover supervisor's manager] and she puts those away and collates them later on. So they don't get to see how I thought their lesson plan was on a scale of one to five".
Secondary cover supervisor

"The cover supervisors are very good now of informing us if they don't get good quality work or things like that...Nine out of ten times it is because the teacher didn't think and didn't leave the work. So they're given that friendly warning; if it happens again the warning might be a bit more severe".
Secondary headteacher

The cover supervisor explained that the worst offending departments were 'named and shamed' among the staff team. Cover supervisors were then withdrawn from covering lessons in these departments until the situation had resolved. This dramatic action appeared to result in teachers almost immediately providing full plans in order to have the cover service reinstated.

Issue B.2 - Important pupil information provided by support staff is underused in teachers' planning, assessment and classroom interactions

Seventeen percent of instances within this dimension concerned the extent of support staff's role in lesson planning and teachers' use of the feedback they gave. Almost as many support staff - mainly primary TAs - were involved in planning lessons (33% of instances) as those that were not (34%). This is likely to be due to the different type of relationship primary teachers have, and the amount of time they spent, with the TAs they work with in the classroom compared to their colleagues at secondary level.

One primary teacher had a class-based TA who "isn't involved in planning, because she's there to support a [SEN] child". She argued that there was no need for this kind of involvement as the TA supported the pupil's attitude, rather than his ability.

As shown above, many TAs were solely responsible for planning the learning intervention sessions they delivered to low ability / SEN pupils. The teachers of the pupils involved in these programmes were detached from this day-to-day planning, delivery and assessment process. A few primary TAs planned lessons that they led when class teachers took their PPA time (see Issue E.3). Overall, joint planning with teachers was rare.

The teacher referred to in the comment above had a second TA who was responsible for leading literacy and numeracy intervention sessions away from the classroom, which involved the aforementioned SEN pupil and several other low ability / SEN pupils in her class. The TA planned lessons and assessed pupils' work independently of the teacher.

"[Tasks for literacy intervention] doesn't really go along with the teacher's plans. It's sort of more my own".
Primary TA

"You get advice on how to do it [Springboard numeracy intervention] and I imagine [TA] is following that".
Primary teacher

Reporting back to teachers was one of support staff's key duties, but views regarding the extent to which this information was put to use varied by role. All teachers who were asked (n=14) claimed that feedback from support staff on pupils' learning, progress and behaviour (both in and away from the class/teacher) informed their further lesson planning. However, only 13 out of 24 support staff who answered the same question agreed. Eleven claimed that their feedback to teachers was not used.

To refer once again to the teacher and TA above, the teacher said that she did not ask for information on the pupils that took part in these sessions nor, according to the TA, did she review the work they did.

"It's [pupil work] all in a folder and probably someone will look at it at the end".
[Researcher: Where does it go after it's done?]
"In a box in the cupboard...I've been doing it [intervention programmes] last year and a little bit of the year before...and to be honest with you, I could have anything in them folders sometimes. Because...sometimes it gets looked at, other times it's taken out of the folder, put in an elastic band and it's put in a box with the books...I've never really known them to look at it to be truthful...It is bad, isn't it?".
Primary TA

Many teachers failed to feed vital information about low ability/SEN pupils – their progress, weaknesses, engagement with concepts and tasks, etc – from interventions and other learning contexts into their wider curriculum planning and assessment, or used it to inform interactions with such pupils in classroom situations.

In such cases, there was a risk that this would lead to a lack of integration between teacher-led and TA-led learning. As the TA above explained, this disconnection meant that it was difficult for her to assess whether pupils were making any progress in class, and she found herself reinforcing the same concepts (e.g. number bonds) week in, week out. Moreover, as Issue B.1 shows, there was very little evidence in teachers' lesson plans and/or instructions for support staff to suggest that they had given particular consideration to these pupils' specific needs.

A number of TAs found it frustrating that teachers did not tap in to their detailed knowledge of the pupils they supported, as they believed they had a lot to offer. One secondary TA felt that many teachers in the school did not access the SEN information which was available to all staff.

"We know the pupils we work with better than the teachers do. Because we're grass roots with them…what they can and can't spell; what their reading is like. So you know they're not going to be able to access something...We're told the needs of all the pupils before they start - the background from primary school - so we all know. But whether people choose to look at the lists…One of them's got a toilet problem…the teacher wasn't aware of that, but he was given the same information as me. So it's whether they choose to look at it or not".
Secondary TA

In general, support staff in secondary schools were much less involved in lesson planning and their feedback used less, compared with those in primary schools, although there were variations within schools in the same phase.

In contrast to the teacher disengagement and detachment described above, there was evidence that teachers in secondary schools - who historically had taken longer to adjust to the introduction of support staff - were now more receptive to feedback.

"I think it's this attitude that some teachers have of 'us and them'. Those that do embrace it…they do listen to the LSA and then that will affect future planning of that group. And then you have some who actually do the lip service and they don't see any change. Because it's a case of, 'What do you know?', kind of attitude. But that is in the minority".
Secondary headteacher

"Over the last two or three years, particularly in secondary schools, I think there is more of a general realisation of the fact that [TAs] are around and that they can be rather more useful than some people might have thought three or four years ago".
Secondary TA

The following comments from a teacher and TA who worked together provide an example of useful practice. They illustrate how, even though communication is often brief, the specific and detailed information TAs have can be vital in helping teachers make decisions about future lessons, and furthermore, give nuanced meaning and understanding to particular events.

"That's usually done very quickly at the end of the lesson, because obviously we're moving straight on to another lesson most of the time. The discussion I had at the end of the science lesson was one of the boys had done a project - they'd all been set projects - and we'd done work in personal study on this project, but the work he brought in was nothing to do with what we'd done. He'd literally copied it off the computer. So I then went to the teacher and said, 'Look, I don't feel that's right. I don't feel he should be given a good mark'. Yes, it looks fantastic, but it's not his work! I've asked him four sentences out of his project - just simple sentences - what they meant, and he didn't know. Now, that says to me he didn't even read what he cut and pasted, never mind understood it. And so I discussed that because that was work that was handed in in the lesson...[Feedback is] very important. You can't do another lesson without feedback".
Secondary TA

"[TA will] let me know if they struggle with a particular aspect of it, so I can think, 'Well, next time round, let's see if I can do it in a different way".
Secondary teacher

Feeding back to teachers had a slightly different emphasis for teachers whose lessons were led by cover supervisors. During classroom observations, cover supervisors were seen writing notes, mostly in relation to pupil behaviour and their engagement with the tasks set. Some also informed teachers about the quality or quantity of the work they had provided, which again some teachers were able to use to inform further planning.

> *"I'd normally get the lesson plan with a little comment on the bottom as to how it went: so-and-so did this; this many got on to the extension tasks; that kind of thing. So there's that kind of feedback...The following day we don't necessarily have time for a catch-up because she's teaching other classes, and I'm teaching my classes. But you get a feedback on the progress that was made and any kind of behavioural issues that need additional support...You just adapt if for the next time. I trust [cover supervisor] that if she says, 'This was too easy for them', or whatever".*
> **Secondary teacher**

Once more the extent to which teachers sought and used this information varied between and within secondary schools. One teacher - although he received notes about cover lessons - explained why he did not follow up feedback from cover supervisors.

> *"You've got the best people to tell you, in that the next day you've got the kids there and you say to them, 'OK, what did you achieve? What did you do?' Regardless of what someone has told you or what their perception of it is…you just say, 'What did you actually learn? Did you watch a video or did you do that worksheet? Let me have a look at it'. And then once you've judged what they've actually got from the lesson - from your point of view - [you can decide to] go over it or carry on".*
> **Secondary teacher**

Issue B.3 Support staff gain subject and pedagogical knowledge via on-the-job experience

Instances relating to how support staff obtained subject and pedagogical knowledge, and the extent of this knowledge, comprised 28% of instances for this dimension. The lack of opportunity for pre-lesson preparation meant that TAs very often picked up important information on learning tasks via teachers' whole class input (49%; 14% for the dimension overall).

> *"I think it's [pedagogical knowledge] just instinctive to be honest. I think it is [experiential]. Yes, Totally. It's not a specifically, 'Go out and learn how to do this'; it's, 'Watch what everybody does and do it our way'".*
> **Primary headteacher**

Support staff gaining subject and pedagogical knowledge via formal and informal training (21%) or through pre-lesson instruction from teachers (18%) accounted for fewer instances. TAs in post for several years were thought to need less teacher guidance as they were able to draw on their experience.

> *"There's usually an objective on the board anyway, so the children know, support staff also know what the objective is, you know. And [TA is] very in-tune as well. Because she's been here for many years, she knows...I wouldn't say they need a great deal of subject knowledge. They just need to observe what you're doing and carry that through....If you're taking mathematics, there's many ways to do subtraction or multiplication…So it's important that the teacher communicates to the support staff which method we're looking at today, or this week".*
> **Primary deputy headteacher**

For specific aspects of support, TAs were often expected to rely on prescribed materials.

> *"How I plan for it [delivering ALS literacy intervention] is that there's a scheme of work that's just there for me, and all I have to do is read it. And it has the resources that I need, all of which are able to be photocopied and some put on card or laminated. So everything is there for me and I don't actually have to deviate from the content at all".*
> **Primary TA**

In comparison with teachers, support staff's greater knowledge of supported pupils' abilities, needs and character - something frequently mentioned by interviewees (see Issue B.2) - was also believed to reduce the need for communication with the teacher. The shortcomings of this 'on the hoof' and experiential means of preparation was reflected in support staff's views on preparedness reported in Issue B.1.

Some comments from interviewees echoed findings from the transcripts of TA-pupil interaction and exposed a lack of basic subject knowledge which should be assumed essential for supporting low ability / SEN pupils (12%).

> *"Some of them [TAs] are excellent, but they are not teachers and do not have that curriculum knowledge...Some of them don't have a level of basic skills - literacy and numeracy - that would enable them to be teachers".*
> **Primary headteacher**

A number of TAs believed that they could turn their knowledge deficiency to their advantage, using it to raise the confidence and facilitate the participation of the pupils they supported.

> *"If they know that you don't know how to do it as well, they quite like that. Because you're sort of more on their level then and you're learning with them".*
> **Secondary TA**

The need for subject and pedagogical knowledge had different implications for cover supervisors. Headteachers, following the national guidance, said that cover supervisors were not expected to teach, yet like TAs, many said that their role encompassed a pedagogic element. Again, as for TAs, this was not supported by training.

> *"[Training for cover supervisors] is very much ad hoc…and it is something that we would benefit from nationally. Because if cover supervisors are here to stay - and I think most schools use them - we need to look and see if there's some way we can support them".*
> **Secondary headteacher**

In terms of subject knowledge, cover supervisors struggled to support pupil learning in subjects with which they were unfamiliar. There was, however, evidence that schools were attempting to capitalise on cover supervisors' skills and knowledge when assigning cover duties.

> *"It gets harder in certain subjects like languages. Subjects like English and maths and science, I find it quite easy to help them if they don't know the answers. But in languages and stuff, it's hard to advise them, because if you don't know the language, you're a bit powerless really to help them out. So I try and help them as much as I can...Certain [cover supervisors]...have got specialisms: [X] is very fluent*

in German; and I'm quite good at art and English; and [Y] is good at performing arts and stuff. And I think that is taken into account when assigning the cover".
Secondary cover supervisor

5.2.3 Dimension C: Support staff deployment

Deployment covers the choices made by headteachers and teachers about use of support staff in schools and classrooms. This dimension adds depth to the structured observation data by addressing the intentions behind deployment choices and the outcomes -– intended and unintended - they produced. Three issues emerged from the case study data (see Table 5.18).

Table 5.18 - Issues in relation to support staff deployment (individual respondent level data)

	Primary		Secondary		Total	
	n	%	n	%	n	%
Issue C.1 Support staff are deployed to affect pupil learning indirectly, but have a direct impact through differentiation						
Pupil engagement and management (indirect impact)	59	61%	85	72%	144	67%
Enhancing pupil learning (direct impact)	37	39%	33	28%	70	33%
Total for Issue C.1	96	45%	118	55%	214	**25%**
Issue C.2 Role clarity can be affected by the responsibilities given to or taken on by support staff						
Teacher and support staff roles are different	44	20%	58	34%	102	26%
Teacher and support staff roles are similar	34	15%	21	12%	55	14%
Support staff autonomy	37	17%	22	13%	59	15%
Support staff role / responsibility regarding marking and assessment	70	31%	34	20%	104	26%
Deployment policy and practice; and perceptions of support staff	38	17%	36	21%	74	19%
Total for Issue C.2	223	57%	171	43%	394	**46%**
Issue C.3 Pupils supported by support staff - specifically TAs - are at risk of being cut off from the teacher, the curriculum and their peers						
Pupil separation from teacher, curriculum and / or peers	47	78%	55	86%	102	82%
Teacher interaction with low ability / SEN pupils	13	22%	9	14%	22	18%
Total for Issue C.3	60	48%	64	52%	124	**14%**
Other instances	81	61%	52	39%	133	**15%**
Total for Dimension C issues	460	53%	405	47%	865	**100%**

Issue C.1 - Support staff are deployed to affect pupil learning indirectly, but have a direct impact through differentiation

Descriptions of the models and purposes of support staff deployment comprised 40% of all instances for this dimension. The majority of these (62%; 25% of all instances for this dimension) can be categorised as factors that have either a direct or indirect impact on pupil learning. For all schools, two-thirds of these instances (17% for the dimension overall) related to pupil engagement and management (indirect impact), whilst the remaining third (8% for the dimension overall) related to enhancing pupil learning (direct impact).

It is necessary at this point to clarify how these terms - 'direct' and 'indirect' - are used in this report as they slightly differ to how they have been applied elsewhere in this study. The timelog analysis (see Blatchford et al., 2008) grouped 91 support staff tasks into six general categories, according to who was supported and in which way. Broadly, tasks performed by TAs and cover supervisors that featured in the following timelog categories - 'support for teachers and / or the curriculum' (e.g. feedback, administration, resources); 'direct pastoral support for pupils' (e.g. mentoring, personal care needs); and 'indirect support for pupils' (e.g. record keeping) - are described here in the Strand 2 Wave 2 case study analysis as having an *indirect* impact on pupil learning. Most of the tasks grouped in the timelog category 'direct learning support for pupils' (e.g. delivering lessons / learning activities, helping pupils to understand instructions) are those that have a *direct* impact on pupil learning. This categorisation reflects the extent to which the role of pupil-based support staff has developed to that of having a distinct pedagogical function.

The analysis of the Wave 2 case study data focuses on the direct and indirect nature of TA and cover supervisor roles in, and their impact on, pupil learning. In this sense, by performing clerical tasks for the teacher, for example, the TA has an indirect effect on pupil learning as the teacher is able to spend more time on lesson planning. The following comment provides a typical example of the way in which TAs were deployed to have an indirect impact.

> *"We need them [pupils] on task. So that's one: keeping them on task. Two, is to build confidence. All six of those [supported] children are, 'I can't do maths. I'm rubbish at maths. I can't do it'. So very much to get them to work independently, confidently, and actually using and applying. And that's the biggest thing that I would hope that any adult in here was doing...support to make the children use and apply the skills they've already got. Because it's all there, it's just making them think as well. It's to keep behaviour down as well; and it's to support basically and encourage and enthuse…What more can you ask for if they're enthusing the children about education? It's probably the most important thing".*
> ***Primary teacher***

Ensuring pupils remained on task, focused and listened to the teacher, and dealing swiftly with off-task activity, were mentioned more by secondary school staff. Secondary TAs were more likely to be deployed to act as 'an extra pair of eyes'. In this sense, the purpose of support for pupils had become conflated with the support TAs provided for teachers. In many ways, this did not present a conflict as both were seen as having a positive indirect effect on learning. As we have found before (see Blatchford et al., 2008) the presence of a TA in the classroom was seen to lead to improved behaviour and, by micro-managing the behaviour of supported pupils in particular, minimised disruption to the lesson, allowing teachers to focus on teaching the rest of the class.

"I have many staff [teachers] coming on to me [asking], 'Can I have support?' 'Why do you need support with eight children?' 'Because the behaviour improves when the LSA is in the room'. And then their children make more progress because they're better behaved. But is that a justification for having an extra LSA? They're not in there to support the teacher with the behaviour; they're in there to support the children, learning. But it's a grey area, because sometimes – because the LSA is in there – they are adding to the progress of the child because their behaviour is modified. So they are progressing educationally. Without them in the class, they'd mess around".
Secondary SENCO

In a similar way, and as found in the analysis of teacher questionnaire data in Strand 1 Waves 1-3 (Blatchford et al., 2009), some teachers felt that the presence of a TA in the classroom allowed them to meet the needs of pupils with SEN/behavioural needs, and a policy of inclusion, whilst again, they could focus on the majority of the class.

"[TAs are] seen as kind of an inclusion resource basically, so we're able to keep those kids in class and move other kids on".
Primary teacher

"I think having support staff in the classroom undoubtedly helps. There's no doubt about that...Ten years ago, some of the children that I'm teaching now, I didn't teach. They didn't come to this type of environment…Some of the children with some of the learning needs…were just excluded from mainstream schooling, and it was a case of, 'Their needs are so specific, we can't possibly meet them'. And now those children are in mainstream classrooms being supported in mainstream classrooms by a separate member of staff".
Secondary teacher

Some TAs and other support staff had a wider role connected with pupil wellbeing, supporting aspects of development (e.g. social and emotional) that could indirectly affect pupils' classroom performance. This was seen by secondary schools in particular as a way of allowing teachers to give increased focus to the activities that had a direct impact on learning.

"The school has dramatically changed in terms of support staff since the teaching and learning responsibilities - TLRs - changed. And with that we took the opportunity to take some work, which had been traditionally done by teachers and employ support staff...[We] did away with heads of year, who were teachers, and the basic reason for that is because their role as the head of year often interfered with their role in the classroom; made them less efficient in the classroom".
Secondary headteacher

Almost all of the schools in the sample used TAs to deliver learning interventions, which had a direct impact on pupil learning. TAs were also the means by which teachers ensured that pupils received differentiated input, typically repeating and reframing material and instructions, often done 'on your feet'' [see also Dimension D: support staff practice].

"The direction becomes much more pinpointed to their needs, whereas the teacher is talking generally. So the differentiation there comes much more from me than from the teacher".
Secondary TA

"...if they're [TAs] kind of within a group, working within a group, they should be looking to differentiate for the teacher".
Secondary headteacher

"It's normally done on your feet and in a classroom, it's not usually planned beforehand...That's really difficult; it's really difficult".
Secondary TA

The structured observations revealed that low ability/SEN pupils supported by TAs were more likely to be given a differentiated task when working away from the classroom compared to in class. It is interesting to note, however, that a few secondary schools deployed TAs to prepare differentiated material for use in the classroom by the teacher.

"[If] I were the head of history and I had somebody [LSA] for an hour a week, and I've got this child or a couple of children in the class, I may say, 'Could you look at some of these videos and do me some guidance notes?'...What's happening is, the LSA is using their time to write guidance notes that will impact the child...They're still supporting the child...we're just intending to put a portion of their time into preparation. It is not going to be that they disappear from the classroom. What is important is that some work is done, which pre-empts your [teacher's] role with the child".
Secondary SENCO

Many TAs, mostly in primary schools, undertook low level clerical tasks for teachers (photocopying, collecting money, etc), but issues connected with this were much less of a talking point among staff compared with the Strand 2 Wave 1 case studies, indicating that this aspect of workload reform, certainly in relation to TAs, had become embedded.

Such workload reform was the basis of the National Agreement, which sought to deploy support staff in roles that would indirectly help to raise standards. Yet it is worth noting that in the development of this policy, consideration was also given to the direct impact support staff can have on pupil attainment, through overtly pedagogical input, in the 'kinds of teaching activity [that] could be delegated to trained, high-level teaching assistants and…those with further and higher education experience' (DfES, 2002, p22). These tasks and functions were later defined in the National Agreement as 'specified work', which support staff could undertake 'in order to assist or support the work of a qualified teacher in the school' (DfES, 2003b, p9). This, in effect, suggests that support staff deployment will have only an indirect, not a direct, impact on pupil learning.

In practice - and as reported in Wave 1 - the extent to which support staff, and TAs in particular, might have these types of impact varied between and within schools, depending on the ethos of the school and the will of individual teachers in whose classes they were deployed.

"I could take you to a classroom where the teacher, in effect, really expects the teaching assistant to sit down, not move round the room too much, and operate in a very formal manner. I could take you to another classroom where the style is of two adults working in the lesson together. And on some occasions - it might only be for a couple of minutes - the teaching assistant might be leading the lesson".
Secondary headteacher

Issue C.2 - Role clarity can be affected by the responsibilities given to or taken on by support staff

The bulk of instances (46%) within this dimension concerned aspects that defined teaching and support roles. Overall the roles were more often described as different (26% of instances for this issue) than as similar (14%), particularly by secondary school staff.

> *"Ultimately it's my responsibility for the learning and progress of these children. Whereas, obviously they [TAs] have a role within that, I think the buck stops here...My role I think is: I'm in charge; this is my space and I organise what goes on. Whereas I think [TA] is waiting much more for direction...[TA] has more time to talk individually with children because I'm looking at the whole picture about what's going on; she's picking up on individual work...So whereas I might be saying [to pupils], 'I want you to include this in your writing: the adjectives, etc', [the TA is] actually sitting down and might find that the child isn't using capital letters, for instance. So then they might just stop and say, 'Well, let's just go over this as well as what's going on in the lesson'. And they have the discretion to do that".*
> **Secondary teacher**

> *"Our role stands as cover supervisors, not cover teachers…We shouldn't really be responsible, or the work shouldn't determine that, we teach, in inverted commas. We're supposed to supervise and facilitate their learning rather than actually directing the lessons...I suppose it's kind of like the missing link between being a babysitter and a teacher".*
> **Secondary cover supervisor**

Teachers were responsible for class level factors over which support staff had little control (e.g. lesson planning and delivery), whereas the work of support staff was characterised by spending more time and giving greater attention to individuals or group of pupils - something the structured observations showed they did much more often than teachers. The following comments are typical of the many teachers who described how the pressure of getting the class through the curriculum and ensuring that lesson objectives were met prevented them from having the kind of interaction with pupils that TAs had.

> *"The two [School Action Plus] boys she [LSA] took out for reading, they do benefit from having that time with her. And I'd rather give it to those two sometimes because she'll have a laugh, she'll have a joke with them, which sometimes as a teacher you don't have time to do…sometimes it's the gentler, perhaps less demanding approach of the LSA, that will put it across in a different way...they [boys] need a bit more tender loving care. So [LSA] perhaps has more of a motherly approach as well...I'm like tunnel vision".*
> **Primary teacher**

> *"A class teacher wouldn't have that amount of time to spend with an individual pupil because of everything else going on in the class…Yes, he or she can walk round and tick and praise, but they still haven't got time to have a bit of a conversation as well…I would say it's a totally different relationship because you're not worrying all the time so much about what everybody else is doing or how to push the lesson forward".*
> **Secondary TA**

As a result of the large degree of autonomy many support staff were given when working with pupils both in and away from the class (15%), they were taking on greater responsibility for class level factors. One such area was pupil assessment and marking (26%), which was most evident in primary schools. Levels of responsibility ranged from ticking answers to simple mathematics questions in class to assessing and reviewing pupil progress in intervention programmes. In a number of cases this TA-administered marking and assessment seemed to go unchecked by teachers.

> *"What's typical is she [TA] will look over a child's shoulder and she will tick. If she's checked a sum with somebody, she'll tick it if it's right. We have a code in the books...she writes 'OF' for oral feedback...She marks the homework sometimes for me and she marks the spellings...just to keep my marking down a little bit;...The other week she'd worked with a group and…she marked the books like a teacher would. She wrote down the comments for the children; areas for them to work on. And I'm quite happy for her to do that".*
> *[Researcher: Do you check those marks?]*
> *"I don't check it, no. I'm quite confident...she's very thorough...but she's also very positive, so I know that she's given them positive feedback in any comments she's going to make".*
> **Primary teacher**

A TA in another primary school was responsible for all aspects of literacy and numeracy interventions, which were held away from the Year 5 classes. She worked solely out of class. She planned and delivered tasks, assessed progress and made decisions about how long pupils should spend learning particular concepts and when to move individuals on to the next level of a programme, as well as marking pupils' work "just like a teacher would". The TA was responsible for all record keeping and made notes after each session on each pupil's engagement, their success or difficulty with a task, and behaviour. Yet her notes, marking and assessment records, despite being accessible, were rarely viewed or referred to by the class teachers.

In contrast, one primary headteacher acknowledged the implications of allowing TAs with weak literacy skills to mark and assess, and had established a clear marking policy.

> *"With one assistant we've asked her not to put anything on the bottom…just to tick and to put their initials, but not to make a comment and not to think about the way forward. With one other assistant, we've asked them to make a comment about it. Now that's to do with things like spelling ability...They're not in a position to mark...[It's] about the abilities of different ...The roles are quite carefully boundaried...[TAs] are not asked to do anything above what they're able to".*
> **Primary headteacher**

Few schools were found to have a clear policy on overall support staff deployment. Many headteachers suggested that a continual state of flux inhibited them from setting down solid guidelines on paper; they spoke of organic development or having to react pragmatically within the dynamic school environment. More so than for TAs, the work of cover supervisors was under constant review.

Others had given different degrees of thought to the issue, although only primary headteachers and teachers made reference to the fact that, where functions and tasks edged towards, or were overtly, pedagogical (e.g. 'specified work'), the work of support staff must be carried out under the supervision of a teacher.

"[Learning support officers] are usually attached to either an individual child on a one-to-one basis, or groups of children who have special educational needs…very much a general purpose worker...but this person will be with children who need some additional help…she'll be generally helping in the classroom…she'll be preparing things…and she's not expected to do as much or to be able to report on the progress of the children within her care...An HLTA is the only support member of staff who is able to look after a class and provide preparation, planning and assessment time for a class teacher".
Primary headteacher

"I never really thought about it [how deployment decisions are made], and I'm not sure. No…we haven't got a specific policy for that. I think generally, if funds are there, I think we work under their job descriptions and that sort of thing".
Primary headteacher

Deployment - supported or unsupported by a formal school policy - and the perceptions that stemmed from it (19%) reinforced the differences between teachers and support staff, sometimes to the detriment of support staff's status and potential. This had slightly different implications in each phase.

"I think they [pupils] kind of view you as more of a helper, and to them helper encompasses everything. It's helping them with their snotty nose and helping them with their tummy-ache…I don't know if it's in all schools. In that respect it's quite difficult when you then get out in the playground and you've got to have this authoritarian head on you...They regard you in a different way".
Primary TA

"The pupils don't show you the respect that they would a real teacher...There is a sort of philosophy within learning support that that [being disciplinarian] is not what we're here for. We want the kids to come in to us willingly...[But] if we're meant to be the nice, friendly face of support, then we can't suddenly change and become the hard-line, 'put you in detention' people...And I feel at times quite powerless because the children will answer you back and you think, 'Well, where can I go now?' And that is difficult".
Secondary TA

The comments above reveal that having a less formal relationship with pupils has implications for enforcing discipline. Not only is it difficult to switch from 'friendly face' to 'disciplinarian', but as the secondary TA suggests, pupils respond differently to members of support staff depending on which role they are working in. For example, TAs found it harder to control pupil behaviour in the playground when working as a lunchtime supervisor than when working in the class.

As far as teachers themselves were concerned, the issue of role 'creep' and the threat it posed to their professional role and status, as reported in Wave 1, was still much in evidence.

"We've spent four years at university training to be a teacher, and I think if you start saying it's OK for a teaching assistant to teach for ten percent of the week, and then a teacher's off for a week and it's OK for them to do it for a week, you're cheapening what teachers have done. And I think [the idea that], 'Oh, it's OK to do it in the infants'...well, it's not, because…I think a class needs a teacher…obviously there's

exceptional circumstances where somebody might step in for half an hour, but it's just a cheap way of doing it; getting people who haven't had the training in to cover".
Primary teacher

"They're not qualified teachers and you can't expect them to deliver in the way a qualified teacher would. I'm not knocking them; they're very good…but I don't agree with having teaching assistants covering classes...In Year 6 we're dealing with fairly challenging stuff, actually, for me to get my head round, let alone an unqualified teaching assistant. Or, I should say an unqualified teacher, because that's what they're doing when they're covering a class... the thought that I could just be replaced by somebody unqualified worries me...The government have spent years and years promoting teaching as a graduate profession…get the best of the best in to do this job. And then all of a sudden through the back door: 'It's too expensive now; let's get in cheaper cover'".
Primary teacher

Yet it was clear, among support staff in secondary schools in particular, that teachers did not always fully understand or appreciate the roles and remits of support staff, and this could influence their deployment decisions in the classroom.

"There isn't that wide vision perhaps, of the teacher realising the support that's there. They don't totally understand what a learning support assistant is about".
Secondary headteacher

"[The covering teacher] had no idea at all how to set up the lesson to get the pupils started. In effect I set up the lesson, got them started, and then she turned round to me and said, 'I don't need you now.' And so as far as she was concerned, I'd done my job. That was as far as my job went; getting the books out basically".
Secondary TA

Issue C.3 - Pupils supported by support staff are at risk of being cut off from the teacher, the curriculum and their peers

Support staff deployment could have the effect of separating pupils from the teacher, the curriculum and their peers. Instances relating to this accounted for 14% of this dimension. As the structured observations showed, TAs were most often observed supporting low ability pupils and those with SEN. In many cases, TAs were given or adopted responsibility for facilitating the learning and engagement of these pupils. Part of this was in the shape of intervention programmes, and again, the structured observations revealed that 91% of these took place away from the class.

In a reflection of different views held by teachers on 'role creep', one primary school teacher had given one TA the "main responsibility for moving [SEN] children on". With a large mixed ability class to manage, she felt that she had neither the "time to plan as widely" for these children, nor could she "afford to be going over number bonds when I need to be teaching the rest of them". These pupils had daily literacy and numeracy sessions, away from the classroom, led by the TA, who had also been given monitor and assessment duties.

"[TA's] teaching the basics and they come back to me and get the extras...I just don't have time to go and sit down and analyse and do gap analysis of what they haven't learnt and stuff. I really rely on [TA] and trust her and know that she'll be doing the right thing with them".
Primary teacher

The structured observations show that primary and secondary school TAs spent around a third of their time supporting low ability/SEN pupils in contexts away from the classroom and teacher. It is worth noting that some - mostly primary - TAs said that pupils preferred to work with them away from the classroom.

"When I first started doing it - bringing the groups out - we just asked the children what did they prefer: going out with [TA] or do you like staying in class and working with the whole class. And most of them did say they want to go out...They love coming out and…some of them say, 'We work better when we're outside, Miss'...Some children, especially lower ones…find it more easier coming out because they get very distracted inside, in class. Looking around and not focusing. But when they are outside, all they've got is there work here. They don't even look up at who's coming through the doors".
Primary TA

The structured observations showed that teachers spent the vast majority of their time working at the whole class level, while TA-pupil interactions took place on an individual or small group level. It seemed that teachers' responsibility for the rest of the class and the need to get through the curriculum drove their deployment decisions that put TAs in closer contact with pupils with learning and/or behavioural needs, but there was a risk that in so doing, the needier pupils became detached from the teacher.

"As a teacher you can think, 'OK. You're my problem child; I'm going to focus on you'...but then you've got 28 other kids who would progress even more if you gave them the attention...Sometimes she [TA] doesn't work with either of those [pupils] and I will work with them, because they're quite draining, as you can imagine. But I think if she wasn't there, [X] would have been away with the fairies".
Primary teacher

In both phases, instances of teachers' interactions with TA-supported pupils in whole class contexts (18%) were significantly exceeded by those where pupils were either withdrawn from the classroom or had far less in-class interaction with their teacher, compared with their peers (82%). The structured observations support this, as we have seen.

During many in-class observations, it was noticeable how little teachers interacted with pupils supported by TAs. Very often, when roving the class, teachers would not visit the area where pupils and TAs were working and, when they did, the duration of the interactions tended to be equal or shorter than those they had with other, unsupported pupils.

Furthermore, when primary pupils were withdrawn by TAs, they often worked in an area just outside the classroom, yet in almost all such instances, the teacher did not leave the classroom to check on these pupils. One reason for this is likely to be that teachers are unwilling to leave the class unsupervised. As a result in most cases the pupils who required the greatest professional input received it the least. However, again, practice varied between and within schools.

> *"Some of them [teachers] will actually heavily involve them [TAs] in the lesson, and some are quite content to ignore them and have them sitting at the back with a child who is statemented, who they're looking after".*
> **Secondary SENCO**

In one secondary classroom, however, the teacher was responsive to a situation where a pupil was not cooperating with the TA supporting him. The teacher made several timely interventions, giving the TA respite (she was beginning to show frustration) and the pupil necessary and sustained one-to-one attention. During these periods, the TA roved the classroom, making sure other pupils were on task and responding to their queries, in the same manner as the teacher. The result was an effective interchange of roles.

Secondary pupils were at more at risk from these forms of separation in several ways. Firstly, withdrawal for TA-led intervention programmes came at the expense of attending typically non-core subjects.

> *"[Pupils] come out of French, English or geography…DT[23] don't like them coming out; Welsh don't; and obviously maths and science they can't come out of anyway".*
> **Secondary TA**

As the TA explained, this was often at the reluctance of teachers, who "don't see literacy as that important. Certainly not as important as their lesson". Her response to this was shared by many of her colleagues and TAs in other schools. While the SENCO at the school reflected on the advantages for the teachers of low ability classes, it is arguable that any advantages that teaching smaller classes might bring may be offset by the fact that it could take longer to get through the curriculum.

> *"Take for instance Welsh. If they can't read or write properly in English, then I don't think they should be trying to teach them Welsh and French. They need to concentrate on their own language".*
> **Secondary TA**

> *"If they come out of geography - again if a small group are taken out to do literacy work - then the teacher then has got a smaller number which she can focus on with them, and then the next geography lesson they'll rotate, so they're not missing out on their subject work".*
> **Secondary SENCO**

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[23] Design and Technology

This raised the question of how pupils caught up with the work they missed while away from the class. Even on the rare occasions where pupils were given time to complete missed tasks, it was inevitably at the expense of missing something else. In one primary class, a pupil with SEN was absent from a non-core lesson whilst she caught up with work from a core lesson she had missed. One secondary school TA claimed that the onus was on the pupils to catch up.

> *"That's their responsibility then. A lot of the classes, they don't".*
> **Secondary TA**

Primary school pupils, on the other hand, were very often withdrawn from whole class English and mathematics lessons for TA-led input away from the classroom. One teacher, who like many of her colleagues echoed the views of the secondary SENCO above, went further, suggesting that in effect, the separation should increase. She felt that TAs were undervalued and that schools could get more out of them by deploying them to work with pupils away from the class.

> *"More independence; give them more independence. So like we have got - if you have got these classes of 30 plus - if you give the TAs the weak ones or the strong ones...so we've got control of the classroom, and to have a TA taking out whichever end it is - top or bottom".*
> **Primary teacher**

The second way in which secondary pupils were at risk of separation as a result of support staff deployment concerned behaviour management. TAs were used in some instances to alleviate the pressure on teachers of low ability classes or where there was a volatile mix of pupils in the class. This was the case in one school, which at the time of the visit had a high number of supply teachers covering for various absences. Predicting that one supply-led French lesson might be disrupted by pupils who became unsettled when the class teacher was absent, the TA, together with the supply teacher and the head of department, discussed at the beginning of the lesson how to split the class to avoid such a situation. As such, the TA withdrew four boys to the learning support room, where he supported them with the set classwork.

> *"A supply teacher will immediately spark off the disruption from the worst offenders. It immediately makes the non-offenders…very unsettled…In those circumstances, I would very often suggest to the supply teacher that I take a group out. And then it's entirely their decision".*
> **Secondary TA**

The TA was concerned that teachers passed the responsibility of supervising the most disruptive pupils on to support staff too readily, and his approach to the situation above revealed how he minimised the risk to himself. Yet at the same time, he suggested that withdrawing pupils in this way often led to better outcomes.

> *"Why should I be the one who takes the three or four most horrendous offenders in the class for disruption, bad language, whatever? I don't see that as my role…Far better to take out two of them with a couple of others…a different mix where the work will get done...The head of French took the decision that…there was a supply teacher in who was not going to be able to handle that class. And she took the decision to split that class up into three. She took two, I took four and the rest stayed with that class… on many occasions, I have got more work out of a small group like that than if they'd been left in the class…in certain subjects".*
> **Secondary TA**

Teachers, on occasions, deployed TAs to remove pupils and work with them elsewhere because they were either disrupting the class or the pupil had requested so. The TA above had to do as the teacher directed even if he felt the pupil should remain in class.

> *"If a pupil is known to be possibly a physical danger when they blow, and they're aware of that, and they take themselves out of the classroom, then that's…doing the right thing. But that's not the same as saying, 'Oh, I'll work better if I go into the learning centre'...because behind everybody's back, you'll be on a computer and within seconds be on BeBo[24]. It wouldn't be for me to step in and say to the teacher, 'Hey, hang on! They're swinging the lead!' I mean, if the teacher says, 'Yes you can', that's fine by me. But like I say, that's not removal; that's opting out...What you saw with that French lesson was definitely removal".*
> **Secondary TA**

The third way in which pupils experienced separation was where support staff were deployed to lead lessons in place of a teacher. There was evidence of pupil separation from professional teacher input, with twice as many instances of support staff being deployed to lead classes in the teacher's absence (n=20) as not (n=9). These findings are roughly in keeping with those from the Wave 1 case studies, which reported that twice as many support staff as teachers did lesson cover due to absence.

Some primary schools remained ideologically opposed to using support staff to lead classes, but financial restrictions were forcing them to reconsider existing practice.

> *"We've always advocated that we should have a teacher in front of the class. But with the constraints on the budget as well, it's becoming harder and the schools have put support staff in front of classes".*
> **Primary deputy headteacher**

Almost all secondary schools had progressed some way down this path, employing small teams of cover supervisors. The advantages of deploying known support staff rather than unknown supply teachers were reported in Strand 2 Wave 1, and these views were again expressed in interviews for Strand 2 Wave 2, as were the effects of deploying support staff in place of teachers.

Some interviewees felt that as these new roles were bedding in, cover supervisors who had developed subject specialisms were adding value. Their work took them beyond 'supervision' and what was originally expected from those in such roles, and into 'teaching'.

> *"I would say that [cover supervisor] teaches them. I think the idea of saying to any class in any school, your cover supervisor will go in and will say, 'Turn to page 33; do that', and the class will sit and do it for an hour, isn't realistic in any school. And that's not what they do. I think they do above and beyond that, definitely. [Cover supervisor] actually wants to talk to students and get involved. She doesn't just issue the work and sit back; she actually teaches it actively...She's a very positive example".*
> **Secondary teacher**

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[24] BeBo is a social networking website like Facebook and MySpace

"I do a bit above and beyond because I don't see the point in just going in there, getting them on task and then sitting back. I don't like that...I like to be proactive...I will adapt a lesson if I'm finding that they're just not coping with it, or it hadn't been explained to them before".
Secondary cover supervisor

5.2.4 Dimension D: Support staff practice

This dimension aimed to capture and describe in detail what it was that support staff did when working with pupils. It provides context for the analysis of teacher and support staff dialogue (see section 5.3). Three issues emerged (see Table 5.19).

Table 5.19 - Issues in relation to support staff practice (individual respondent level data)

	Primary		Secondary		Total	
	n	%	n	%	n	%
Issue D.1 Support staff's practice / interactions can be defined as 'reactive'. They operate 'in the moment'	123	54%	104	46%	227	**39%**
Issue D.2 There are unintended effects of local support for pupils that can lead to dependency and isolation						
Support staff role / interactions enable inclusion of pupils with SEN	64	60%	86	63%	150	62%
Pupils' dependency on support/support staff	19	18%	43	32%	62	26%
Pupils' separated from teacher, teaching and peers as a result of support staff interaction	23	22%	7	5%	30	12%
Total for Issue D.2	106	44%	136	56%	242	**42%**
Issue D.3 Despite their inclusion in behaviour management systems, pupil behaviour can be worse for support staff						
The inclusion of support staff in behaviour management systems	33	92%	38	64%	71	75%
Views regarding pupil behaviour when working with support staff	3	8%	21	36%	24	25%
Total for Issue D.3	36	38%	59	62%	95	**16%**
Other instances	7	44%	9	56%	16	**3%**
Total for Dimension D issues	272	47%	308	54%	580	**100%**

Issue D.1 - Support staff's practice/interactions can be defined as 'reactive'. They operate 'in the moment'

The majority of instances within the dimension of practice (57%) described the facets of support staff-pupil interaction in 'local', intimate contexts. The bulk of instances within this (69%; 39% of all dimension instances) characterised the support role and interactions as 'reactive', as opposed to the 'proactive' role of teachers. Support staff responded to the needs of pupils 'on the hoof', providing personalised and immediate support in the shape of differentiation and scaffolding. This picture is consistent with the analysis of TA to pupil talk (see Section 5.3).

TAs were essential to the differentiation of tasks for supported pupils. This was most evident in those instances when there were comments on engaging in practices that changed the pace of the task, deconstructing concepts or instructions, prompting or questioning pupils so that they might arrive at an answer for themselves, and rephrasing or augmenting the teacher's talk.

> *"That particular [low ability/SEN] group...if you try to just read the question and say, 'This is what we want you to do; carry on with it', they wouldn't have a clue. They'd just be sitting looking at each other. So we really do have to do what we call scaffolding. That's where we do it in stages, broken down...I often think that with [X], because eight times out of ten I would say, if he's in a classroom situation, he's not really grasping the work, unless it's broken down for him and I'm sitting with him".*
> **Primary TA**

> *"Explaining things to them; giving them small examples; guiding them to the answer without giving them the answer...and trying to re-word things so that they will understand it".*
> **Secondary TA**

> *"It's like the percentages and things like that. I explained that to [a pupil] completely different as to how the teacher probably would have explained it. And she kind of went, 'Oh, I get that', because it was just how I do it, you know. I stand there thinking 10%: right, ten pence in every one pound. And I explained it all like this and she was like, 'Yes, I understand that'. It might be a long way around but you still get to the answer. And does it matter as long as you get to the answer?".*
> **Secondary TA**

This reactive, improvised practice of TAs could engage pupils in constructive ways. Another effective way in which this was achieved was by personalising the context in which questions and investigations took place, appealing to a pupil's interests.

> *"Sometimes, with things like numeracy, making it as visual as you can; like getting things like pencils or cubes, so they can actually see things practically, and sort of take things away. That often helps in particular with the lower ability".*
> **Primary TA**

> *"I pick up on their likes and dislikes and their interests, and I home in on that…[Referring to a money task] I will choose apples and bananas, but with [X] I chose Claire's Accessories [jewellery]…because at the end of the day she's a Year 6 child; she is going to be interested in these things…-She is picturing what she is buying. She is not in the shop buying apples and bananas. She doesn't really care about apples and bananas".*
> **Primary TA**

These comments on productive practice need to be set alongside evidence from the transcripts of TA-pupil interaction (see Section 5.3) which showed in a more detailed way just how TAs interacted with pupils, not always effectively. The case study observations showed types of TA practice that removed a task from a pupil, e.g., 'scribing' and 'spoon-feeding'. These were also seen in the transcript analysis, though here it is possible to learn more about why this occurs. At times it seemed driven by the need for the supported pupil to keep pace with the activity and/or the rest of the class.

> *"When [X] was reading [aloud]…I was actually telling him the next word so that he didn't stumble on it, which would make the others make fun of him. His reading ability is very low, so to pre-empt that I actually whispered very, very lightly. But of course, it seemed as though he read fluently, and that sort of thing works really well. But then I have to go to [teacher] and say, 'Well, actually, he struggled'".*
> **Secondary TA**

In one primary classroom observation, the TA supporting a low ability pupil reused large chunks of the pupil's output from a previous piece of work in the writing for the task she was observed supporting. Such practices that prioritise the end product of a task over learning or understanding remove ownership from the pupil and could have a detrimental effect on learning and the pupil's identity as a learner (see Issue C.2).

Issue D.2 - There are unintended effects of local support for pupils that can lead to dependency and isolation

Support staff - specifically TAs - have, over recent years, become a key feature of enabling the inclusion of pupils with SEN in mainstream classes. This issue, representing 42% of all dimension instances, addressed the advantages and disadvantages of the practice associated with this. Aspects of TA practice and interaction with SEN pupils (e.g. ensuring they can access the curriculum and participate in lessons / activities; maintaining on-task behaviour; and dealing with off-task behaviour) formed 62% for this issue (26% of all instances for this dimension).

> *"When they are on the carpet and there is a child that doesn't concentrate, there is someone just tapping them on the shoulder and re-focusing them the whole time. And they know there is another pair of eyes in the class".*
> **Primary headteacher**

> *"I had to direct them in because, of course generally with the lower ability students, any excuse when they should be working independently, they will do everything but what they are supposed to be asked to do. So my main task really was to focus them in so that they could get the information that the teacher had asked them to do".*
> **Secondary TA**

Teachers valued how TAs ensured that supported pupils were focused and on task, as this benefited not only supported pupils, but also the class as a whole. They could focus more on teaching and less on behaviour management (see Issue C.3).

> *"[Supported pupils] tend to be those who would be away with the fairies if nobody sits next to them. And worse than that, they'll be disruptive to the rest of the class. So therefore, my role is to sit and make sure that they tune in".*
> **Primary TA**

The types of local support described above could have unintended effects or consequences. This analysis extends data from the transcripts because it addresses some of the consequences of TA to pupil interactions. Instances of unintended consequences comprised 38% for this issue (16% of all those for this dimension). Two-thirds of these instances concerned pupils' dependency on support staff and practices that helped them to develop their identity as learners. This was a greater issue in secondary schools.

> *"Sometimes…you have to be careful, because where they need adult support, they get to rely on it. And sometimes they can do a bit by their self".*
> **Primary TA**

Dependency can lead to pupils taking fewer risks with their work. In observations, it was noticeable how pupils repeatedly sought validation from the TA. In many instances they appeared to refer to the TA simply because she was so close.

> *"He kind of has to look at me for reassurance: 'Am I right here in what I'm saying?' And I say, 'Yes. Just put your hand up'. You have to do that with him".*
> **Secondary TA**

Some TAs described the effects of dependency, although it is worth noting that dependency does not necessarily imply laziness or 'learned helplessness', on the pupil's part, but may reflect genuine need.

> *"A lot of them can do what they do out there with me fine [intervention work away from the class], and they get into a test and they can't do it".*
> **Primary TA**

> *"[X's] reading levels are really, really poor. So by reading the questions I'm also picking out the information that he has to do. But in an exam, I can't do that. I can read the question, but I can't then say to him, 'Well, it's saying to you, 'Five people went to the cinema. Tickets cost £3.10. What do we have to do with that £3.10 and them five people?' You know, you can't simplify it. So that makes it difficult for them in an exam...If it says multiply and [X] says to me, 'What does multiply mean?' I can't tell him that. He should know".*
> **Secondary TA**

The difficulty in finding the balance between providing the right type and amount of support without nurturing dependence was recognised by far fewer teachers than TAs. Those that did comment on such learned helplessness did not offer any suggestion of how this might be handled more effectively, leaving TAs to arrive at their own judgements about, for example, when and how often they should withdraw from the pupil completely.

> *"Where possible, if the lower ability group can get on with it, then they work independently. Because what they tend to do is become so used to an adult helping them, that they never become independent".*
> **Primary teacher**

> *"There is a fine line between giving help and actually doing the work for them, which some of the students will try…[TA's role] is to get them to work by themselves".*
> **Secondary TA**

"The advantage for the pupil is that the pressure is taken off. They know that if they miss a little bit [of teacher talk]… he can then ask, 'I don't understand any more', and then you can tell him. So the pupil then gets reliant on you,...That's up to you to be able to stop the dependency...I don't sit with just one. …If they've started work and I know they understand what they're doing, I'll just get myself up and I'll go and sit next to [X], or I'll go and sit next to [Y]. Although they know you're still in the class, or you're still in a safety zone, it still promotes independence".
Secondary TA

Some teachers recognised the issue of pupil dependence, but were uncertain about how to plan work that prevented this or fostered independence. TAs made 'on the hoof' decisions about when and how to intervene. The need to provide support had to be carefully balanced against practices that took the task away from the pupil or allowed them to disengage. The more effective TAs were alive to opportunities that let them speak less or to physically withdraw and allow pupils to work independently.

TAs described how some of the pupils they supported - predominantly those in secondary schools - felt that there was a stigma attached to having support. It is therefore worth noting that TAs' decisions to withdraw from these pupils were at times influenced by this factor.

"You try to be as invisible as possible in the class, if the child warrants that. But again, with someone like [X], you can't stick to one particular child because it has an adverse effect on their behaviour anyway. If you are helping a group it makes it easier for him to interact with the other children as well…Because he doesn't want to be different from his peers, and if I am sitting there next to him, it's as if he's got a minder and the children don't like that".
Secondary TA

The second unintended effect of in-class support staff-pupil interaction was the way in which pupils were cut off - at times completely (see Issue C.3) and on other occasions, intermittently - from the teacher, teaching and their peers. Furthermore, drawing on data from the transcripts of TA-pupil interaction (see Section 5.3), it is difficult to escape the conclusion that some pupils may receive lower quality teaching within this context. This was a greater issue in primary schools.

Being intermittently cut off typically occurred during teacher-led whole class delivery when the TA interacted with the pupil or pupils they were supporting. The Strand 2 Wave 2 structured observations showed that TAs spent much of their time supporting pupils while listening to the teacher teach, particularly in secondary schools. Such TA-pupil interaction includes the verbal differentiation practice described above (see Issue D.1), that is, providing additional explanatory information when the teacher was addressing the whole class. Some teachers and TAs considered the effects of what could be called 'stereo teaching'; that is, both adults talking at once.

"You're teaching and...the TA needs to be...speaking to the child when you are teaching - sort of re-emphasising or behaviour management - really quietly so it doesn't interfere with the lesson. That's really good; that's skilled. When the TA might actually tell a child off across the classroom, or in a loud voice - if you're teaching - that can be distracting and make the lesson go a bit bumpy".
Primary teacher

"I won't talk if the teacher's talking - talking and teaching - and I don't tend to move about if the teacher is talking, because that could distract students as well".
Secondary TA

Issue D.3 - Despite their inclusion in behaviour management systems, pupil behaviour can be worse for support staff

Support staff practice regarding pupil behaviour comprised 16% of all instances for this dimension. Just over half of these instances (53%) concerned their inclusion in behaviour management systems, including the use of sanctions and rewards. By and large, support staff used systems and procedures established at the whole school and classroom level (75% of instances for this issue).

"[TA] has to have a big role in behaviour and attitude...for example when I was out yesterday - if she didn't have control of their behaviour, she wouldn't have been able to control it. We do the same techniques in behaviour strategies. Because obviously, it would confuse the children to have two adults doing completely different things, so we do things together".
Primary teacher

"You can hand out detentions or you can send a slip…In our own experiences you can send somebody out to stand outside the classroom; you can tell them off; you can have them sitting on their own…Or remove them to get them to work in another classroom".
Secondary cover supervisor

One particular aspect of TAs' behaviour management practice that was frequently mentioned was the way in which they acted swiftly and discreetly - 'having a quiet word' - and thus minimising disruption and not affecting the teacher's delivery.

"We say to staff that if a child goes to amber, to get them back to green as quickly as possible, so that they don't then go on to red...And very much you find that teachers rely on their TAs to get the children back down".
Primary headteacher

"I would never undermine the teacher, but often I will just lean across and say, 'Sit still', in a very low tone...Or what will often happen is, I will make eye contact with the teacher, so she knows what's happening, and then it's up to her to do the disciplining".
Secondary TA

By and large, teaching and support roles were clear with regard to behaviour management, challenging misbehaviour and following up incidents. Support staff knew their limits when working in class with the teacher, but some tended to take on arguably too much responsibility in other contexts.

Views regarding behaviour (25%) revealed that secondary school pupils in particular were more likely to be poorly behaved when working with support staff than when working with teachers. As reported in Strand 2 Wave 1, pupils were sensitive towards the different roles of teachers and support staff, and responded differently to both. When asked, all secondary teachers and all but one cover supervisor said that behaviour was worse when a cover supervisor led a class compared with a teacher.

"The children don't regard them as being high enough in the pecking order and the LSAs do get a problem with it. A child tends to…will be rude to LSAs far more than teachers. Not all LSAs, but the vast majority of them. And it depends on the age of the child of course".
Secondary teacher

"[Support staff] don't have the same respect, no. They don't have the same respect or effect".
Secondary teacher

5.2.5 Dimension E: Conceptualisations of pupil progress in relation to support staff

Headteachers, teachers and support staff all described the impact of support staff on pupils' academic, behavioural and social development. Three issues for this dimension emerged from the case study data (see Table 5.20).

Table 5.20 - Issues in relation to conceptualisations of pupil progress in relation to support staff (individual respondent level data)

		Primary		Secondary		Total	
		n	%	n	%	n	%
Issue E.1 Support staff have a positive effect on pupil learning, but there is a lack of hard evidence to support such claims							
	Impressionistic views of direct positive impact of support staff on pupil attainment	33	46%	27	44%	60	45%
	Indirect impact on learning: pupil engagement and on-task behaviour	24	33%	22	35%	46	34%
	Indirect impact on learning: improving teacher performance via reducing class size	15	21%	13	21%	28	21%
Total for Issue E.1		72	54%	62	46%	134	**53%**
Issue E.2 Alternative views of pupil progress may provide a more reliable and valid means of measuring support staff impact on attainment							
	Use of formal measures to assess support staff impact on pupils	15	43%	13	37%	28	40%
	Alternative conceptualisations of progress	20	57%	22	63%	42	60%
Total for Issue E.2		35	50%	35	50%	70	**27%**
Issue E.3 There are mitigating factors that may explain the limited impact support staff have on pupils' learning and behaviour, most of which are beyond their control							
	Mitigating factors: school / teacher-based	8	35%	22	88%	30	63%
	TAs responsible for planning lessons; working in place of teachers	8	35%	0	0%	8	17%
	Developmental factors intrinsic to pupils with SEN	7	30%	3	12%	10	21%
Total for Issue E.3		23	48%	25	52%	48	**19%**
Other instances		1	33%	2	67%	3	**1%**
Total for Dimension E issues		131	51%	124	49%	255	**100%**

Issue E.1 - Support staff have a positive effect on pupil learning, but there is a lack of hard evidence to support such claims

The majority of instances in this dimension (53%) described the impact of support staff on pupils. Many headteachers and teachers claimed that support both in and away from the classroom had a direct and positive impact on pupil attainment, but such assertions - as they were in Strand 2 Wave 1 - were almost always based on impressionistic views rather than hard evidence (45%; 24% of all instances for the dimension).

> *"With those [low ability/SEN] children, we're relatively sure that if they didn't have that support then they would have made less progress".*
> **Primary assistant headteacher**

It was notable that TAs (25%) mostly believed that supporting pupils away from the classroom had a beneficial impact. This view was shared by headteachers, but was mentioned less by teachers.

> *"Our expectation is that if you're taking children out to do a particular intervention like that [Early Literacy Support], they should make twice the progress that the other children in the class are making. And sometimes the children make more than twice the progress that the other children in the class are making. Because that's what it's got to be: if they make the same progress then they might as well have stayed in the class...and there isn't absolutely any doubt at all that if we didn't have the teaching assistants, the children would not make that progress that they make at the moment".*
> **Primary headteacher**

Interviewees claimed that support from TAs in particular had an indirect effect on learning in two ways: firstly, by facilitating pupil engagement and ensuring on-task behaviour (34%); and secondly, by improving teacher performance as a result of reducing class size and improving the adult:pupil ratio (21%). These indirect effects were mentioned by more TAs (25%) than senior leaders (10%) and teachers (12%) in secondary schools.

The impact of TAs was broadly described by headteachers and teachers in terms of reducing the class size and ensuring the neediest pupils in particular were engaged. Teachers said that it was difficult for them to continually ensure that low ability/SEN pupils were paying attention or were on-task.

> *"Some of the really special needs children with LSAs, if they didn't have an LSA they wouldn't do anything at all".*
> **Primary assistant headteacher**

> *"If [TA] wasn't there, I can't teach to [the level of pupils with low ability/SEN] at the board, because I'm going to lose 25 other kids. But if [TA] is there, I know that those five kids who are really struggling, they are there with me. And it's because she's keeping them engaged; and they wouldn't be engaged if they were struggling all the time. So she's bringing it down to their level. And without her I'd be losing either my five School Action kids every lesson, or I'd be losing the 25 rest of the class while I'm engaging them. So it's really important".*
> **Primary teacher**

One comment in particular highlights how inclusion has made the presence of additional adults in the classroom essential for teachers whose classes comprise pupils with a wide range of needs.

> *"You only have to look in the Year 3 class particularly to see how the teacher can teach the whole class when she's got a child with Downs Syndrome, a child with autism, a child with Moebius Syndrome, another autistic child who's not severe [and] a child with speech and learning difficulties, who are all being supported to access the curriculum that she's delivering to the so-called normal children in the class. It's [the effect of the TA] just major".*
> **Primary headteacher**

There was an assumption among some interviewees that having a TA in the classroom would result in academic progress via improved behaviour.

> *"But it's a grey area, because sometimes, because the LSA is in there, they are adding to the progress of the child because their behaviour is modified. So they are progressing educationally. Without them in the class, they'd mess around".*
> **Secondary SENCO**

Issue E.2 - Alternative views of pupil progress may provide a more reliable and valid means of measuring support staff impact on attainment

A further 27% of instances in this dimension reflected the difficulty schools faced in measuring the effect of staff support in a reliable way, thereby proving their positive impact on pupil progress (as reported in Issue E.1 above). Some formal measures were adopted by schools (e.g., national test scores, Ofsted inspections and performance reviews). Separating out the influence of support staff from the other factors that affected progress was regarded a complex exercise (40%).

> *"It's hard to measure, but it's happening...It's a success...In terms of our Ofsted inspection in May, it was commented on very, very favourably. And that's because the kids told the inspectors it was making a difference. So if they feel it, in some senses, it must be....Teaching assistants, cover supervisors, all make an impact - but it's harder to show whether that's made a one percent difference or ten…I wish it would make a ten percent difference!...We can but hope".*
> **Secondary headteacher**

> *"That [measuring the impact of TAs on academic progress] requires us to start to measure the impact of where the teaching assistant is in comparison with where one has not been,...We get the data through now on children's performance at Key Stage 3 and Key Stage 4, and what we're seeing is that SEN [pupils] are not performing any better than similar types of children in other schools, but then they're not performing any worse. So I would have to say, the data shows me that my support staff are making some difference, but they could be making more...Ofsted will collect the data on the outcomes, but they will deal with some data on individual children at the end of each Key Stage. What we should be doing, I think - is being rather more discerning about how we're using our resources [support staff]. Are we using the resources because the teacher can't cope in the classroom, or are we using that resource actually to impact particularly on learning? And I have to say I'm optimistic, because I think we're going down those types of routes".*
> **Secondary headteacher**

The comments above are particularly noteworthy as they get to the heart of the problem of identifying and measuring TA impact. The use of high-profile measures - Ofsted reports and end-of-year test data - as a reliable and valid means of evaluating support staff impact are problematic as they are not able to provide systematic and reliable data on cause and effect. Similarly, the use of end-of-Key Stage test data may not reveal evidence of impact unless there is careful control of other confounding factors, yet some headteachers seemed to rely on such data.

A number of interviewees (60%) suggested that conceptualising progress in smaller units more appropriately captured the impact of support staff on attainment. For example, termly reviews of specific pupil targets, perhaps linked to an intervention programme, or teacher assessment of particular lesson or task objectives.

> *"If we track pupil progress in terms of attainment levels on a termly basis, which is what we do with the teachers...We are looking at children who are underachieving [and] looking at the role of support staff in supporting those children, and then reviewing them in the next term to see if it has a positive impact".*
> **Primary headteacher**

> *"You see very small steps by yourself: they ask less questions; spell better; starting a sentence with a capital letter...and you're not needed to remind them. And it may only be a small step - say like starting a sentence with a capital letter - but that's something that was a problem, but they are now doing it. So in a way, yes, that is progress. You may not think it's much, but it is still progress. It's still going in the right direction, so it means that you can then work on something else".*
> **Secondary TA**

This conceptualisation of pupil progress in relation to the lesson-to-lesson or term-to-term deployment of TAs is a useful way of thinking about their impact on attainment and achievement. Whilst conceiving of impact in such ways is helpful, none of the schools in the case study sample had applied this thinking in service of reliable measures of TA impact, which fed into existing assessment or tracking tools.

Issue E.3 - There are mitigating factors that may explain the limited impact support staff have on pupils' learning and behaviour, most of which are beyond their control

The organisational factors that determined support staff employment and deployment, and the processes that surrounded their work, could affect the potential for them to work to their maximum efficiency. Such instances comprised 19% for the dimension overall, the majority of which (63%) reflected how tasks for some lessons - notably those led by support staff in the absence of a teacher - were of a lower cognitive demand. Secondary school staff in particular described the knock-on effect in terms of managing behaviour.

"Originally it [cover lesson] would have been a practical. But because it's science, and because of health and safety issues, if we have a cover [lesson], we're not allowed to do a practical... the only other tasks that we can set are sheets or things that don't involve any practical, any physical, or even a lot of stretch. Because the cover teacher usually isn't a scientist, and can't answer questions....You're not going to set them fantastic challenging stuff, because the minute they get stuck, you know there'll be no help for them and they'll just get frustrated and won't be able to do it...I won't say [a cover lesson] is a missed lesson, but it's not a satisfactory lesson....You have to accept that you're not going to get the same learning, if you like, in that lesson...So it [lesson task] has to be not as demanding, shall we say".
Secondary teacher

"I felt there were quite a few days when it was just, 'Well, here's a whole load of word-searches', or 'Here's a whole load of quiz sheets to fill in'. And the children know that they're just being given something to fill in the time. This isn't a proper lesson; you're just filling in something because we've nothing else to give you. So I felt that wasn't fair on the children".
Secondary cover supervisor

Several teachers felt that they had to set less demanding work as cover lessons were frequently led by a non-subject specialist. Practical lessons in science and technology could not be delivered by cover supervisors. Less demanding or poorly planned tasks could unsettle pupils, and coupled with the presence of a cover supervisor rather than a teacher, could precipitate disruptive behaviour. Observations in lessons led by cover supervisors showed that pupils could spend time off-task, although not in a disruptive manner.

Comments from some TAs suggested that the separation between supported pupils and some teachers (as described in Issue C.3) could result in work not being properly targeted.

"Being with them [SEN pupils] for the past three years, I know their abilities and I know how far to push. And I sometimes feel that the teachers don't push them enough because they're statemented".
Secondary TA

A further 17% of these instances revealed how a number of primary TAs were fully responsible for planning such lessons, the tasks for which were also often inappropriate. TAs who planned intervention sessions often chose procedural activities at the expense of tasks that developed pupils' conceptual knowledge. For example, two TAs who jointly led Key Stage 2 classes when teachers' took their PPA time, planned tasks that involved drawing and colouring

"[The lesson is] an hour...It's trying to find things to keep them entertained, to keep them on task and thinking it is a good lesson".
Primary TA

A TA who planned and led intervention sessions away from the classroom said that she did not always target tasks appropriately. This occurred during one observed session.

"It was nice. They [SEN pupils] thought it was fun, but I don't really think they got a lot out of it. There probably was a different worksheet that would have stretched them a little bit more".
Primary TA

The Strand 2 Wave 1 case studies concluded that there was little evidence of any theoretical considerations playing a part in deployment decisions that cast support staff in pedagogical roles. Instead, decisions were largely pragmatic and made in reaction to the need to implement the National Agreement. Whilst the role of remodelling policy was less evident in the Wave 2 case studies, there was no further evidence offered to support the conceptual or theoretical case for this use of support staff.

A third mitigating factor concerned developmental factors intrinsic to pupils with SEN, which made up 21% of instances relating to this issue. Some interviewees argued that pupils with low ability made less progress or made progress more slowly.

> *"If a child has got a special need for example then because of their level of ability then their progress will always be limited. They'll never ever reach the same level as a child with average ability the same age in their class. So their progress is always going to be slower".*
> **Primary headteacher**

5.3 Analysis of transcripts of TA-pupil and teacher-pupil interactions

The purpose of this part of the study was to get a detailed account of the nature of talk between classroom based support staff and pupils and to compare this with talk between teachers and pupils. In order to conduct a meaningful comparison the aim was to chose situations roughly similar for teachers and TAs and so they were restricted to English and mathematics and to class based talk. As described in the Methodology section, this resulted in coding of 32 lessons in all, 16 involving teachers' talk with pupils and 16 involving TAs' talk with pupils. The lessons were ones in which teachers and teaching assistants participated concurrently.

There are a number of challenges when analysing data at this level of detail. There have been many different types of approaches to the analysis of classroom talk, stemming from very different paradigms of research, e.g., extremely detailed linguistic analyses (e.g., Sinclair and Coulthard, 1975), sociolinguistics (Edwards and Westgate, 1987), detailed systematic observation approaches (e.g., Dunkin and Biddle, 1974; Galton, Simon and Croll, 1980), approaches influenced by socio-cultural traditions (e.g., Barnes, Britton and Torbe, 1986) and more contemporary approaches to 'dialogic' teaching (Alexander, 2000). The aim of the analysis here was to provide a general comparison of main forms of talk as they related to everyday educationally relevant interactions with pupils. We drew on more informal observations as part of the Strand 2 case studies and also the systematic observation data for Strand 2 Wave 1, to identify key components. We also drew on a model of effective teaching (Berliner, 1987) as we wanted a general approach, for teachers and TAs, able to describe talk with an instructional purpose, covering explanations, questions, prompts and feedback, and planning and classroom management. We wanted to describe talk at the individual utterance level, but also the teacher and TA role in the lesson, types of relationships with pupils, and styles of delivery, and the degree to which teachers and TAs were proactive vs. reactive in the lesson as a whole. For the talk level categories, the level of categorisation needed to allow units meaningful in terms of educational and linguistic form, and frequent enough to be subjected to numerical analysis.

In order to develop a coding framework of main types of talk, one of the team first read through several of the transcripts to gain a sense of the structure of the lessons and the types of interactions that were occurring. On the basis of this initial familiarisation with the material the researcher developed a coding framework partly based on Berliner's model of effective teaching. This was then discussed with others on the team, who had also read through transcripts, and

differences and similarities in interpretations were discussed. Then through an iterative process whereby various drafts of the coding framework were developed, trialled with the transcripts, and discussed, the research team developed the coding framework used in the analysis reported here. All references to teachers and teaching assistants had been removed from the transcripts for coding. However the differences between the respective transcripts were striking and hence it was impossible for the researcher not to be aware of whether the transcript related to a teacher or to a teaching assistant.

There were two main types of coding categories: those applied at the utterance level ('talk level codes'), and those applied to the overall lesson or session ('lesson level codes'). Within the talk level codes, categories were further split into talk referring to the task or substantive content of the topic ('task/content talk') and those relating to the purpose of the lesson ('lesson purpose talk'). The lesson level codes were further divided into talk about the lesson ('lesson talk') covering the structure of the lesson and style of delivery and talk concerning 'relationships' covering the adult role, relationships with pupils and the role of pupils.

The full coding frame with definitions is shown in Appendix 5. A summary of the codes is given here.

Codes for analysis of teacher to pupil and TA to pupil talk

1. Talk level codes

A. Task / content talk

1. Organisation
    a. Organisation of pupils
    b. Organisation of materials

2. Language use: concepts
    a. Explanation of concept
    b. Statements as prompts

3. Language use: questions
    a. Types of questions
    b. Response to student answers

4. Feedback
    a. Feedback is about learning / task completion
    b. Use of praise / rewards / criticism

5. Behaviour management
    a. Preventive: positive / negative
    b. Reactive: positive / negative

B. Lesson purpose talk

    6   Orientation
             a. Introduction to lesson objective/focus
             b. Links to previous / future lesson / prior knowledge

    7   Promoting engagement / motivation
             a. Cognitive focus
             b. Task focus

2. Lesson level codes

C. Lesson Talk

    8   Structure of the lesson
             a. Lesson is planned
             b. Motivation is task / behaviour focused

    9   Style of delivery
             a. Type of language used: formal / informal
             b. Subject / task knowledge
             c. Focus: task completion / understanding concepts
             d. Cohesion of explanations
             e. Cohesion of questions
             f. Cohesion of organisational statements and demands
             g. Effectiveness of orientation in focusing students on learning
             h. Effectiveness of engagement / motivation in promoting student learning
             i. Effectiveness of feedback in promoting student learning
             j. Effectiveness of behaviour management statements
             k. Talk is planned

D. Relationships

    10 Adult role
             a. Pro-active/reactive
             b. Public / private

    11 Relationships with pupils
             a. Formal / informal

    12 Role of pupils
             a. Active / passive
             b. Attitude to adults

With regard to talk level codes, each lesson transcript for teachers and TAs was divided into utterances and appropriate codes applied (more than one code could be used). Lengths of utterances varied from single lines to extended sequences of (usually) teacher talk to pupils (usually the class).

In order to ascertain the reliability of the coding, another experienced researcher independently coded 6 transcripts, three of teacher talk and three of TA talk. The first pair of scripts were used for training purposes, with the remaining four being used for analysis of reliability. Reliability was calculated by taking each utterance as the unit of analysis and examining the extent of agreement over the codes within. As utterance lengths varied one/zero coding was used for the purpose of the reliability analysis, i.e., codes were counted once only for each utterance. The number of times the coders agreed and disagreed on the presence of codes were then calculated. These figures were then used to obtain a percentage agreement score (agree /(agree + disagree) X 100) - see Table 5.21. The mean reliability between the two coders was satisfactory at 73%.

Table 5.21 - Inter-rater agreement of transcripts coding

Transcript	% Coder Agreement
1	73.4
2	74.4
3	66.3
4	80.0
Mean	73.5

For the purposes of the main analyses, codes were summed for each session for teachers and TAs, and results are shown in Table 5.22. Pupils' talk was not coded. There were a large number of codes - for the within class sessions, teachers had 5226 and TAs 2295 (it was possible for more than one code to be applied to an utterance so these frequencies exceed the number of utterances). Comparisons of frequencies of each code for teachers and TAs are helpful but to a degree misleading because differences might simply reflect the fact that teachers speak more than twice as much as TAs overall. This does not then accurately reflect proportionate differences in types of talk between the two types of adults. To address this, and provide a stricter test of differences between teachers and TAs, the percentage each type of talk occurred relative to the total number of codes for each session for each adult was also calculated, along with the standard deviations of these means (SD) (see Table 5.22). Note that relative proportions may not exactly reflect overall frequencies because session lengths varied, as did the number of times other codes occurred within the session.

It should be noted that within each talk level category there were a number of qualitatively different kinds of behaviours, e.g., different types of explanation, statements, and questions. These were often as revealing as the overall frequency of occurrence and we refer to these below, along with numerical information, and illustrative extracts from the transcripts. All pupil names are fictitious.

Lesson level codes were not directed at utterances but at the overall lesson. As such, analysis was not couched in terms of frequencies but in terms of an overall description of the session from the perspective of each code. Accordingly, statistical analysis was not appropriate.

The first set of analyses were on the talk level codes and examined differences between teachers and TAs in the same class. Statistically this gives rise to 'paired' data, and so an appropriate paired statistical test was used. An examination of the differences between teachers and TAs for each class indicated that these values were generally normally distributed, and so the paired t-test was used to compare between teachers and TAs.

A second set of analyses examined differences between primary and secondary schools for the 32 within class sessions. Differences between TAs and teachers in each talk level code were analysed through two sample t-tests, to see if these varied between primary and secondary schools (see Table 5.23).

Results

A summary of the differences between teachers and TAs for talk level codes is given in Table 5.22.

Table 5.22 - Comparison of teacher and TA - talk level codes

Outcome	Teacher		TA		P-value
	Frequency	Mean% (SD)	Frequency	Mean% (SD)	
1a. Organisation of pupils	683	16 (9)	302	15 (9)	0.73
1b. Organisation of materials	75	2 (2)	13	1 (2)	0.06
2a. Explanation of concept	421	7 (5)	116	4 (4)	0.01**
2b. Statements as prompts	254	4 (2)	339	16 (13)	0.002**
3a. Types of questions	912	16 (8)	542	24 (11)	0.02*
3b. Response to student answers	541	9 (5)	222	7 (6)	0.22
4a. Feedback re: learning / task completion	275	5 (3)	84	3 (3)	0.03*
4b. Use of praise / rewards / criticism	272	5 (3)	99	4 (4)	0.47
5a. Behaviour management: preventive	53	1.1 (1.4)	10	0.4 (1.1)	0.12
5b. Behaviour management: reactive	347	7 (5)	60	5 (11)	0.40
6a. Introduction to lesson focus	69	1.5 (1.3)	2	0.1 (0.4)	0.001***
6b. Linking to prior / future lesson	130	3 (2)	23	1 (1)	0.001***
7a. Motivation / engagement: cognitive focus	409	8 (5)	63	3 (5)	<0.001***
7b. Motivation / engagement: task focus	785	15 (6)	420	15 (10)	0.94
Total	5226		2295		

* p significant, less than 0.05
** p significant, less than 0.01
*** p significant, less than 0.001

The results showed that the most frequent types of talk for teachers were: types of questions (3a), promoting engagement/motivation - task focus (7b); organisation of pupils (1a); responding to students' answers (3b); promoting engagement / motivation: cognitive focus (7a); and behaviour management - reactive (5b). The most frequent types of talk for TAs were: types of questions (3a); promoting engagement / motivation - task focus (7b); statements as prompts (2b); organisation of pupils (1a); and responding to students' answers (3b). Overall, therefore, the two most common types of talk were similar for teachers and TAs.

The results indicated a statistically significant difference between teachers and TAs for codes 2a, 2b, 3a, 4a, 6a, 6b and 7a. There were no differences between the two sets of results for the other outcomes, although differences approached significance for 1b. Teachers tended to engage in: proportionately more explanation of concepts (2a); feedback about learning/task completion (4a); introduction to lesson objective/focus (6a); links to previous / future lesson / prior knowledge (6b); and promoting engagement / motivation - cognitive focus (7a). Conversely, TAs engaged in proportionately more statements as prompts (2b) and types of questions (3a). Observations in category 2b made up 16% of responses for TAs, but only 4% for teachers, while 24% of all TA observations fell into category 3a, with the equivalent figure being 16% for teachers.

Subsequent analyses examined how the difference between teachers and TAs varied between primary and secondary schools (see Table 5.23). The figures are the mean difference between teachers and TAs for each school phase (along with the standard deviations). The differences are reported as value for teacher minus value for TA, a positive figure implying a higher value for teachers than for TAs.

Table 5.23 - Mean differences between teachers and TAs for talk level codes for each school phase

Outcome	Primary Mean (SD)	Secondary Mean (SD)	P-value
1a. Organisation of pupils	-3 (8)	2 (11)	0.36
1b. Organisation of materials	0 (1)	1 (1)	0.23
2a. Explanation of concept	2 (2)	3 (4)	0.79
2b. Statements as prompts	-9 (6)	-13 (15)	0.45
3a. Types of questions	2 (6)	-11 (12)	0.02
3b. Response to student answers	8 (4)	0 (6)	0.03
4a. Feedback is about learning/task completion	1 (2)	2 (4)	0.71
4b. Use of praise / rewards / criticism	-1 (6)	1 (4)	0.38
5a. Behaviour management: preventive	2 (4)	0 (2)	0.002
5b. Behaviour management: reactive	-8 (20)	6 (5)	0.26
6a. Introduction to lesson focus	1 (1)	2 (2)	0.67
6b. Linking to prior learning / future learning	3 (1)	2 (2)	0.45
7a. Motivation / engagement: cognitive focus	5 (4)	5 (5)	0.99
7b. Motivation / engagement: task focus	-2 (9)	1 (8)	0.58

The results indicated that for the majority of talk codes the difference between teachers and TAs did not vary between primary and secondary schools. It should be noted that there were only 4 primary classes represented in the analysis, so some caution should be exercised when interpreting the results. The exception was for codes 3a, 3b and 5a. For 3a the difference between TAs and teachers was more pronounced at secondary school than at primary schools, with this outcome making up a lower proportion of observations for TAs at secondary schools. For outcomes 3b and 5a, the difference between TAs and teachers was greater at primary schools than at secondary schools, with this outcome more popular for teachers than TAs in

primary schools, but there being little difference between TAs and teachers for secondary schools.

Although there are therefore some differences between primary and secondary schools, these are relatively small in comparison to those between teachers and TAs more generally. We comment now on the overall categories and also the types of talk within the categories.

Talk level codes

A Task / Content talk

1. Organisation

1a. Organising pupil

In terms of overall frequencies this was the third most common type of talk for teachers and the fourth most common for TAs. There were similar proportions for teachers and TAs. Generally both teachers and teaching assistants organised pupils effectively and efficiently for lessons and during the lessons for tasks. Due to the teacher role, teacher organisational comments frequently related to groups of pupils (420 of 683 organisational statements directed to groups). For example:

> *"Now if you've not finished I want you to carry on and write your poem. For those of you who have finished I want you to do the next one".*
> **Teacher H1**

> *"Early finishers - you can move on to the questions. Just move on to part two please".*
> **Teacher I2**

On the other hand TAs' comments were almost exclusively at the individual level (27 of 302 statements directed to groups). For example:

> *"Put the date in the margin - which is the 9th. So zero nine, forward slash ten, forward slash zero seven".*
> **Teaching Assistant C1**

These results are in line with those from the Strand 2 Wave 2 structured observation results.

1b. Organising materials

Overall, comments relating to organising materials were rare for both teachers and TAs. However, there was a tendency (not quite statistically significant – p=0.06) for proportionately fewer such comments to come from TAs compared to teachers. This was mostly because teachers took responsibility for organising the distribution and collection of materials. For example:

> *"Dice go in this bag, books, the worksheets on here. Pens and pencils need to go away up on the shelf. Chairs need to be stacked behind the benches. Tables need to be stacked where they go".*
> **Teacher B2**

2. Language use: concepts

2a. Explaining concepts

Teachers spent proportionately more time explaining concepts than did TAs (7% vs 4%). Overall, teachers were able to adjust explanations to student level, and explain and re-explain concepts so they were at a suitable level for pupils. Generally, explanations were clear and designed to assist and develop student thinking. For example, one teacher explained a student's response to a question for the benefit of the other pupils:

> *"Seven times three is 21, 0.2 times three is 0.6. 0.01, because that 1 is one*
> *hundredth times three, is 0.03 – giving an answer of 21.63".*
> **Teacher A2**

Another teacher explained the meaning of a poem as it was being read through with the pupils:

> *"The steady breaking and wombing of the waves. So the waves breaking - that*
> *sound - you know, if you're on a nice island that must be lovely to wake up to, mustn't*
> *it? So you wake up, and instead of hearing the noise of the traffic, you listen to the*
> *breaking of the waves".*
> **Teacher F**

On the other hand, explanations by TAs were less common. They generally appeared more concerned with completing tasks than with developing understanding. There were several instances in which there was no concept development or explanation throughout the lesson. Sometimes the explanations were incorrect. Of the 16 lessons involving TAs analysed in this study, there were 9 in which the teaching assistants explained concepts to pupils; of these 9 lessons there were 5 in which at least some of the concept explanations were inaccurate. For example:

> *"Well look - a whole number - you know if you have seven, well that would be closer*
> *to ten, wouldn't it? Because ten is a whole number. Near to seven. Do you*
> *understand? Yes? Do you think? So, we think that whole numbers are like tens and*
> *things like that - yes?"*
> **Teaching Assistant C1**

> *"The perimeter of a rectangle with width - W - and length twice the width. So it's got*
> *to have a twice… So perimeter is twice the width".*
> **Teaching Assistant E1**

Other explanations by teaching assistants seemed confusing for pupils:

> *"Three from nothing you can't do, can you? So you have to borrow one, don't you?...*
> *So three from ten is seven... Then you have to give one back, don't you, here? Or do*
> *you do it the opposite way?... There's two ways to do it, you see. I don't know which*
> *way you do it. Right. So if you give one back that would be a one, wouldn't it? So*
> *cross that out and that'd be a one. One from nothing you can't do, so we have to*
> *borrow another one, don't we?".*
> **Teaching Assistant D1**

2b. Statements as prompts

TAs were significantly more likely than teachers to provide pupils with prompts (16% vs 4%). Moreover, the structure of prompts appeared to vary. Prompts from teachers were mostly designed to enhance student thinking. For example:

> *"Round it up to the nearest ten, please. To the nearest ten... So think about how many zeros you need to have".*
> **Teacher C2**

In contrast, prompts from TAs frequently supplied pupils with the answer. This meant that the TAs were in a sense doing the work for the pupils and pupils did not therefore need to engage in thinking. In the example below, the TA answers comprehension questions the pupils have been given and later dictates what they should write.

> *"Grandma was knitting when the Martian knocked at the door. How's that? When Peter opened the door and found a Martian there, he acted…normally?".*
> **Teaching Assistant G1**

At times TAs asked pupils to engage in thinking but would then supply pupils with an answer. For example:

> *"You need to explain what that phrase is telling you, Veronica. Does it make you feel that she's angry for him, or she's upset for him, or…? Use whatever word you feel. You need to say that Grace Nichols feels upset…because he's upset because he's now living in London".*
> **Teaching Assistant F**

Overall, of 254 prompts by teachers, there were 29 in which the teacher supplied the students with the answer whereas for TAs, of 339 prompts, 208 provided students with the answer and only 131 encouraged student independence and thinking. Where student thinking was not encouraged as part of the prompt the TAs supplied students with answers, told them what to write for answers, provided them with ideas, wrote answers for them, read out questions and spelt words out for students without encouraging independence. On the other hand, teachers supplied answers having previously provided prompts that had not led to a suitable student response.

3. Language use: questions

3a. Types of questions

This was the single most frequent type of talk for teachers and TAs. Both teachers and TAs therefore asked pupils lots of questions though there were proportionately more of these from TAs compared to teachers (24% vs 16%). Closed questions were the most common form of questions used by both groups. However, whereas teachers used a variety of open and closed questions, TAs almost exclusively used closed questions of their pupils. TAs asked a total of 37 open questions whereas teachers asked 194. It was rare for teachers to supply pupils with answers to questions. Generally teachers would re-phrase questions or provide additional information so pupils did the thinking and could answer the questions. For example:

"Why is it a square? …why do we say that's a square and that's not a square? That's a rectangle - OK? It's got four sides - but it's not a square, it's called a rectangle. Now - can you tell me why that's called a square and that's called a rectangle? What's different? What do you see different?"
Teacher E2

In contrast, TAs often asked pupils a question and then answered it for them:

"OK - what are we up to? This one - 111 - a hundred and eleven. So the nearest ten would be…? No, no - that's hundreds. A hundred and eleven. Just take off the hundred and look at the eleven - so what number are you going to take it to?... Ten, isn't it?... If you've got to take it to the nearest ten - you've got ten or twenty. Eleven is closer to ten, isn't it?... So it's a hundred and ten. Yes?"
Teaching Assistant C1

Questions could also be used as prompts. Again the differences between teacher and TA prompts were evident. From a teacher:

"Can you think of one more (word)? Come on. I mean, why do you…talk to me…you drive to your granddad's across the fields in your tractor on your own, yes? OK, how do you feel about that?"
Teacher J2

From a TA (students have been set a task to write about their life as a glass):

"What sort of glass would you like to be? It might be nice to be a champagne glass; or perhaps you…a sort of wine glass; you know, the ones with the long stems? Or a short, dumpy one. Perhaps a nice one with a piece of silver round the top... Right, what kind of glass are you going to be? A long thin glass?".
Teaching Assistant H2

Teachers often used questions to check student understanding of a concept or idea whereas when TAs checked student understanding they tended to simply ask if pupils understood without further checks. For example, when checking student understanding of facts the teacher asks the question at the end of the sequence below to confirm student knowledge. Closed questions such as this were common with teachers when checking student understanding. The final question in the sequence below is used to check student understanding of types of fats:

"What were the names of the two different kinds of fats that you can actually get in food? One began with S… Right. Good. Saturated and unsaturated fats. Right. What sort of foods do you get saturated fats in?"
Teacher N2

Conversely, the example below shows a TA providing an explanation for rounding of numbers; she then simply asks if the pupil understands, and when the pupil indicates she does the TA moves on to something else.

"It's four hundred - because that's below five, isn't it - the thirty-two? Like three is below five - so it would be one thousand, four hundred, wouldn't it? Do you understand that?"
Teaching Assistant C1

Later in the lesson she discovers the pupil does not understand but still does not check further:

"If you tell me you understand if you don't, I won't be able to help you sweetheart".
Teaching Assistant C1

And later still:

"If you've got a hundred and fifty - fifty…anything above that, you go upwards. So if you've got a hundred and fifty here, it's going to go upwards, isn't it? Because it's five or more. So two hundred. Do you understand?"
Teaching Assistant C1

3b. Response to student answers

Both teachers and TA responded similarly to student responses to answers. They praised the student for a correct answer, they repeated correct and incorrect responses, they rephrased questions when responses were incorrect, or they asked another student. However, one difference between teachers and TAs was that teachers frequently used student responses as a springboard to promote additional student thinking. This was much less common for teaching assistants. For example, from a teacher discussing a poem about apartheid:

"The sign's gone, but Vaughan's right - he said he knows that even though there's no sign there any more, that they still wouldn't be allowed in; that they would be stopped. All right? What do you think, then, the poet might actually be saying?".
Teacher K2

4. Feedback

4a. Feedback about learning or task completion

Teachers tended to provide more of this kind of talk than TAs. All teachers provided students with feedback whereas only 11 TAs did so. Moreover teachers provided pupils with feedback about their learning more frequently than they did about the task or student behaviour and, with the exception of one teacher, all provided several instances of feedback about learning in each lesson. For example:

"When marking your stories, your genres, I was really pleased. I looked at them and I think probably just about everybody had views on the genre they were writing. Some of you need to be really careful because the comedy genres - some of them were getting a bit on the nonsense, silly side; so you've got to think about how you can use comedy without being silly and writing nonsense".
Teacher G2

However, fewer instances of feedback related to learning could be found for TAs (4 TAs provided at least one instance). In the example below, the TA is speaking about an answer to a comprehension question:

"You haven't written a whole sentence there. When Peter opened the door…".
Teaching Assistant G1

More frequently, feedback from TAs related to task completion. For example:

> *"Try not to do it so fast and you might do it a bit neater. (And later) Oh, that's looking super now".*
> **Teaching Assistant N1**

There were also times when some teachers provided feedback related to task completion. For example:

> *"I've set your sums for you, because they start off not needing so much carrying and things and I hope you will be able to go quite quickly with the first few".*
> **Teacher B**

Overall, of the total of 275 instances of feedback by teachers, 192 statements were feedback related to student learning and 83 were in connection with either task completion or task-related student behaviour. In contrast, of the total of 84 feedback statements by TAs, only 54 concerned student learning while 30 were related to task completion or task-related behaviour.

4b. Use of praise and criticism

There was little difference in the proportion of praise and criticism. Pupils were praised for understanding, task completion, behaviour, and responses to questions. Often, praise comprised expressions such as, 'well done', 'excellent' or 'very good', and pupils would not always have been sure what they were being praised for. The examples given below show praise that would have been meaningful to pupils:

> *"Powerful - good, OK. What else? That's a super word - it's an excellent word".*
> **Teacher J2**

And in relation to a word find:

> *"You've found 'orphan'. Well done. Good lad".*
> **Teaching Assistant I1**

Criticism was very uncommon among both teachers and TAs. Very occasionally a student was criticised or given negative feedback. From a teacher:

> *"You think they're off for a walk (rephrased pupil response). Frank - I think you may need to go to the opticians. Let's have somebody else help us out".*
> **Teacher K2**

In the following interaction the TA criticises a pupil's idea for a story:

> *"An egg comes out of the egg? No, something's got to come out of it Leona - it can't just be another egg. You've got to think what comes out of the egg - not another egg. You're not putting much of a story to that, are you?"*
> **Teaching Assistant A1**

5. Behaviour management

5a. Preventive: positive and negative

Although there were some exceptions, generally adults had only a small number of behaviour management incidents to deal with in any lesson. Overall teachers made more comments related to behaviour management than did TAs, though statistical analysis showed no significant differences in the percentages. Differences largely reflected their respective roles within the classroom. Teachers managed the behaviour of the whole class whereas teaching assistants only had responsibility for a small group of pupils. Moreover, whereas teachers would reprimand pupils who were the responsibility of TAs, the reverse was rarely the case.

Preventive behaviour management statements were less common for TAs than for teachers. Whereas 11 teachers made such comments, only 4 TAs used preventive statements to manage behaviour. Almost all preventive behaviour management statements were positive as illustrated below:

> *"And if we can do this lovely work in this level of noise, it will be a smiley face point soon".*
> **Teacher G2**

And from a TA:

> *"If you keep being good I'll give you a nice shiny one (merit certificate) in maths. A special one. This afternoon. Maths is straight after dinner, so I'll bring that nice shiny one with me".*
> **Teaching Assistant I1**

5b. Reactive: positive and negative

Both teachers and TAs mostly reacted to student behaviour when necessary. At times the response was positive (i.e. they might focus on pupils doing the right thing rather than those who were not) but mostly the reaction was neutral but firm, or negative. Both teachers and TAs used a variety of methods to deal with inappropriate behaviour. These included threats; questions (e.g. 'what are you doing?'); requests for compliance (e.g. phrased with 'please' or 'can you'); punishment for non-compliance (at times in response to previous threats); clear consequences for behaviour; engaging in debate with a student; providing pupils with clear expectations for behaviour; and using a clear, assertive statement. Often just the use of a student's name was enough to gain compliance. Every teacher made reactive behavioural statements during each lesson. However, only 11 TAs made such comments. Teachers were more likely to respond to student behaviour by providing clear expectations for student behaviour or strong statements that left little doubt about what was expected. On the other hand, TAs mostly responded to student behaviour with requests for compliance; they tended to make what might be regarded as weaker statements. For example, note the contrast in style shown below:

> *"Fraser - if you write on your board you're not listening. That tells me you're not doing the right thing. So wipe your whiteboard, put it away, and then you won't be tempted".*
> **Teacher C2**

> *"David - go and sit down please. David - go and sit down please. Thank you. Put that piece of paper away please. And the sweet. And the sweet"*
> **Teaching Assistant F**

As a way of further categorising statements, reactive statements were categorised as either 'pedagogically appropriate' (i.e., defined as clear, assertive statements; providing clear expectations; positive reactions; questions about behaviour, e.g., what are you doing?) or as 'pedagogically inappropriate' (defined as threats; requests for compliance; punishment; arguing with a student; sarcastic comments; 'shh' when not specifically targeted). Overall teachers made 209 'appropriate' and 138 'inappropriate' statements while TAs made 24 appropriate and 36 inappropriate statements.

B. Lesson Purpose

6. Orientation

6a. Introduction to the lesson objective / focus

Introducing the lesson or ensuring pupils were aware of the lesson's objective or focus did not make up a major proportion of any lesson. However, there were clear differences between teachers and TAs. Whereas 13 teachers at some stage during the lesson informed pupils of the focus, no TA did this. An example of a teacher's introduction appears below:

> *"Now, what you're doing today is you are going to start producing imaginative writing. You're going to write a poem. You're going to be given a topic. A silly topic, like imagine you're a glass. Imagine you're a tree. Imagine you're hiding from someone. And you've got to produce an imaginative piece of writing. The reason we do this is because, when you are asked (as you were asked in the last half term) to write about celebrities, you have to produce one page of writing at least in paragraphs. And writing like this, this type of imaginative, creative writing helps you to practise expressing your thoughts. Not just in a boring way, but in a creative way, in a very interesting way".*
> **Teacher H1**

There is one example of a response by a TA who is asked by a student what they will be learning. Her reply shows she is unsure of the lesson objective, instead she focuses on a task the pupils will complete. The first two sentences in this sequence were the only two instances in all lessons coded as talk by a TA about the lesson focus:

> *"I don't know what we're doing today. I know we're going to start with a game on the board. So that will be quite good".*
> **Teaching Assistant L2**

6b. Links to prior knowledge, previous lessons, future learning

Teachers engaged in proportionately more of this type of talk than TAs (3% vs 1%). Without exception all the 16 teachers linked the current lesson to knowledge they knew pupils already possessed, to previous lessons (usually the previous day or week), or to future learning. Several TAs did make similar links (9) but their statements were in relation to prior learning (at times within-lesson links) or on completing work for a forthcoming examination. Typical teacher and TA statements are below:

> *"Remember last lesson. What did we make last lesson? We were building, weren't we? Well we need to be able to do these (2-dimensional shapes) so we can construct accurately".*
> **Teacher L1**

"What did we say 25% was yesterday? When we was doing fractions?".
Teaching Assistant D1

7. Promoting engagement and / or motivation

7a. Promoting cognitive engagement

Teachers also engaged in more of this type of talk than TAs (8% vs. 3%). Teachers frequently attempted to promote student thinking and cognitive engagement. While 10 TAs did try to foster student thinking, this was a much less common practice than it was for teachers. For many teachers there was constant reference to student thinking. For example:

"You need to go back and you need to think about the words that you can use in your story. They need to be creative words; they need to be fairly important, significant words. Words like when we discussed symbolism – that make up layers of meaning".
Teacher O1

The following excerpt is from a TA who encourages student thinking throughout her lesson:

"When the problem arises, how are you going to solve the problem? You've got to think about how the problem will be solved and then what happens at the end. A good ending to your story, OK?".
Teaching Assistant A1

7b. Task focus

This was the second most common type of talk for teachers and TAs. For teachers, there was a balance between the focus on cognitive engagement and on the task. There were large numbers of statements for all teachers in both categories (a total of 409 for 7a and 785 for 7b). However for teaching assistants, the major focus was on the task, rather than in promoting engagement (420 vs 63). Even TAs who did try to promote student thinking also spent more time concentrating on the task. Partially this is a function of their role in that in most lessons they are given one or more tasks to complete with pupils. As a consequence, TAs tend to focus more on completing the task than on promoting student thinking about the task. The examples below are of teachers and TAs focusing pupils on the task.

"So I'd like you to practise exercise 1.1B, but I'd only like you to do for me questions five, six and seven now please".
Teacher D2

"So we have to put the chemical in and then measure the temperature. Add one spatula of the chemical... One spatula of copper…is that copper sulphate? One spatula of copper sulphate and then take the temperature".
Teaching Assistant P2

This category included not only talk that was focused on the task but when teachers or TAs engaged in off-task talk with pupils this was also recorded in this category. It should be noted that 'off-task' is a general term used here to refer to all talk not specifically about the substantive topic of the lesson. There were six teachers who engaged in off-task talk defined in such a way. In both cases the distraction was short-lived and the teacher quickly re-focused. In contrast, 11 TAs had off-task conversations with their pupils, some of which were extended. This is illustrated

by the numbers of off-task statements. There were 21 teacher statements that were off-task and 83 TA statements that were off task. The first example below is the longest period of off-task talk recorded for any teacher. In this example a student has asked about adding items to her uniform:

> *Teacher: "You're allowed to accessorise your uniform, but not wear…*
> *Student: Shoes.*
> *Teacher: It wouldn't be a uniform, would it? Do you know what I mean?*
> *Student: I might dye my hair pink.*
> *Teacher: Now. Is it relevant to discuss it in my maths lesson?*
> *Student: I was thinking… Can we not wear leg warmers, or is it just something…?*
> *Teacher: Veronica – that's at another appropriate time - not now. Thank you very much. OK. Focus please, and work".*
> **Teacher E2**

The second example of a TA talking with a student is not unusual in terms of length of time within a lesson. This particular TA (but also others) had several off-task conversations with her pupils during the lesson.

> *TA: "BBC1. I don't know why they think people watch BBC1, do you?*
> *Student: They might watch Eastenders or something like that.*
> *TA: But this is in between ten and midnight. Is there anybody awake in the world between ten and midnight?*
> *Student: Probably somebody like…um…somewhere…like the clock's two hours in front.*
> *TA: It could be somebody…it could be somebody that works late, couldn't it? I'm not awake at that time of night.*
> *Student: Are you not?*
> *TA: No. I go to bed at nine o'clock. I'm a good girl.*
> *Student: I go somewhere round…(unclear)*
> *TA: Yeah, well you should do because you need your sleep".*
> **Teaching Assistant N1**

TA interactions in and out of the classroom

So far in this analysis of teacher and TA talk to pupils we have compared the teacher and the TA in the same context, i.e., in the classroom. This is the most appropriate way of conducting the analysis because the educational environment (the classroom, the task etc.) within which teachers and TAs work is the same, and, moreover, they are contemporaneous in time. Any differences found are therefore likely to be attributable to the teacher or TA themselves rather than the nature of the context. Though TAs tended to work more in the classroom (about two thirds of times), as we saw earlier there were times when TAs worked with pupils out of the classroom. Informal observations suggested that these could be different occasions with TAs more likely to be conducting an educational intervention, and therefore possibly likely to behave more like teachers, with more freedom to set up activities, control the group (or individual), and work more on understanding than on procedures. It was not possible to obtain as many tapes of TA talk outside the classroom (n=8 sessions) and, moreover, these were a disparate group of occasions, with some TA-led literacy and numeracy interventions, but also three sessions involving support for homework and an out of class group session within which the TA supported a teacher (essentially a small class led by the teacher). There were also several tapes from the

same TA. Given the eclectic nature of these sessions, a formal statistical comparison with teacher and TA in-class talk would not be advisable.

However, analysis of out of classroom utterances from TAs, conducted using the same coding frame as that for in-class teachers and TAs showed that, in contrast to teachers and in-class TAs, TAs out of the classroom were more likely to engage in statements as prompts (3a). They also engaged in more responses to student answers (3b) and use of praise/rewards/criticism (4b), while they engaged in less organisation of pupils (1a), motivation/engagement/task focus (7b) and explanations of concepts (2a). The comments made above, when contrasting teachers and in-class TAs, are therefore even more marked for out of class TAs. If anything, they behave even less like teachers in the sense of being less likely to organise pupils, more likely to give prompts and feedback, and less likely to explain concepts.

These results on out of class TAs need to be treated cautiously, as just mentioned, but they do indicate the possible situational influences on TA talk. It was the impression of field workers, at the time of the case studies, that TAs out of the classroom tended to go over work that had already been covered in class, and did not cover new material. Pupils were working on different things, had different difficulties and needed different kinds of help. There were relatively few opportunities for whole group talk. TAs understandably tended to personalise the work with pupils, often individually in turn, and often prompted pupils (e.g., when hearing readers, comprehension work, timetables). Pupils often had problems focussing on the task and so much talk was geared to maintaining attention through prompts. There appeared to be less talk about concepts, partly because pupils were practicing and going over work with which they were (or should have been) familiar. In this sense the talk was more obviously 'supportive' and less like 'teaching', though as we have seen the definitions of these terms can be problematic. Many of the TAs seemed to have a lot of experience with this kind of support and the observers commented on the good organisation of pupils and materials.

Lesson level codes

C. Lesson Talk

8. Structure of the lesson

All lessons appeared planned by the teacher. The one possible exception was one TA who was working through a text book with pupils at their individual pace following on from the previous day's work. It seemed that teachers were clear about the lesson structure and the lesson content while this was far less evident for TAs. In line with what has been said above, TAs appeared mostly reactive to whatever the teacher had planned. There were instances of TAs arriving late to lessons because they had come from another class, and, conversely of them leaving early to go to another class. Consequently, many seemed under prepared for the lessons.

9. Style of delivery

Generally teachers were more formal and business-like in their approach to pupils. They appeared to have a clear agenda and they worked hard to complete their lessons. Mostly lessons had a clear structure. On the other hand, TAs (because they worked with individuals and small groups) were more personable and chatty with pupils; they were far more informal. Many teaching assistants (more often than teachers) used endearments (e.g. 'darling', 'sweetheart') when speaking to their pupils. They also engaged in informal chats with their pupils where they shared personal experiences and preferences. There were a large number of instances of TAs using incorrect grammar when speaking to pupils.

D. Relationships

10. Adult role

Because of their respective roles in the classroom and in planning, teachers were pro-active in the classroom. They led the lesson; they took responsibility for all pupils; they worked with individuals, small groups and the whole class; they planned; and they ensured the lesson agenda was completed. On the other hand, because TAs played no role in planning and worked with only small groups and individuals, they had a reactive role in the classroom. They mostly only interacted with the pupils they had been asked to work with and they completed the tasks teachers asked them to do with pupils. They did not have a decision-making role.

11. Relationships with pupils

Teachers were mostly business-like in their approach to pupils. The majority appeared relaxed and confident in their role and related positively to their pupils. Some joked with pupils, some showed a personal interest in pupils, some showed warmth but teachers were clearly in control and learning was their focus. Similarly, TAs mostly appeared relaxed with their pupils and related positively to them. However, a few interacted quite formally with their pupils (in a similar way to teachers) while others were very informal and treated pupils almost as peers. The main focus of TAs appeared to be on completing the tasks the pupils had been given rather than on developing learning. Again, this is a function of the reactive role into which they are placed.

12. Role of pupils

In almost all lessons, students working with teachers were actively involved. Student thinking was frequently being promoted and there was a high level of participation by a wide range of students. The picture was quite different with TAs. When students worked with them they mostly took a passive role where the TA told them what to do and often supplied them with answers (see sections above related to prompting), at times completing some of the work for them. Although there are a few exceptions, on the whole TAs did not develop student thinking and independence.

Generally students were respectful towards both teachers and TAs. They responded to requests and off-task behaviour appeared minimal. However, although students clearly had good relationships with their teachers, the interactions tended to be more formal than they were with the TAs. With TAs, students appeared relaxed and happy to engage in personal and friendly conversations. Occasionally they were overly-familiar with the TA. Overall, TAs did not enjoy the same level of respect as did teachers.

Chapter 6: Discussion

In this report we have addressed the impact of support on 1. teachers and teaching, i.e., teacher job satisfaction, stress and workloads; activities passed from teachers to support staff; and teacher views on effects of support staff on their teaching; and 2. on pupils in terms of the effect of support staff on pupil learning and behaviour (from teacher views), positive approaches to learning in terms of confidence, motivation and ability to work independently and complete assigned work (from teacher ratings); and pupils' academic attainment in terms of the effect of the amount of support they receive on end of year attainment, controlling for other factors likely to confound this relationship, e.g., prior attainment and SEN status. We have also situated the results in a wider context, through detailed case studies involving interviews, documentation and audio recordings of teacher and TA talk to pupils, in order to help contextualise and explain findings on the impact of support staff.

6.1 Effect of support staff on teachers

One of the most notable results from the DISS study has been the positive effect of support staff on teachers. This was evident in several ways. There was a positive effect on teachers' workloads, as seen in the TQ data on the transfer of routine and clerical tasks to support staff. While at Wave 1 most of the 26 tasks listed in Table 3.1 were conducted by teachers, by Wave 2 there had been a marked transfer to support staff, a trend which continued through to Wave 3. Tasks now largely performed by support staff at Wave 3 were collecting money, chasing absences, bulk photocopying, copy typing, producing standard letters, producing class lists, analysing attendance figures, processing exam results, administering work experience, administering teacher cover, ICT trouble shooting, commissioning new ICT equipment, stocktaking, preparing/maintaining equipment, and inputting pupil data. We found that administrative staff were far more likely than any other support staff category to perform those tasks previously undertaken by teachers. By Wave 3 they had largely taken main responsibility for 13 of the 26 tasks. These findings are also consistent with results from case studies in Strand 2 Waves 1 and 2.

The positive effect of support staff on teachers' workloads was also seen in responses to two different closed questions. In the TQ, teachers were asked about the extent to which support staff they worked with in the last week had affected their workload. This showed that half of teachers at Waves 2 and 3 judged that support staff had led to a decrease in their workload. Administrative staff, technicians, as well as TA equivalent staff, had had most effect on workloads. It was not just teachers who felt that they had benefited from support staff. In the third MSQ, in Wave 3, headteachers were asked about the extent to which remodelling had affected the workload of teachers, headteachers, the leadership team and support staff in the school. Of the four groups it was only teachers who were said to have experienced a decrease in workloads (three quarters said teachers' workloads had decreased). Results are shown in full in Blatchford et al. (2009).

Teachers' answers to an open-ended question in the Strand 1 Waves 2 and 3 TQ gave further details on ways in which support staff had helped reduce workloads. For many the presence of support staff had a positive impact on their workload. In line with the transfer of routine activities, teachers often listed the tasks they no longer had to perform or carried out less frequently because support staff were doing them instead. This helped give teachers more time for other areas of their work, particularly teaching and attending to pupils. For others it brought about the pleasure of a good working relationship, making the job easier and a reduction in pressure.

At each wave there were a minority of teachers who said that some aspects of their workload had increased as a result of having support staff carry out work for them. The reason was usually due to the increased amount of planning and preparation which was required in order for the support staff to be able to carry out their work. However, the time taken up with this extra work was still considered by some to be worthwhile in terms of it helping support staff to work more effectively.

There were two other areas where teachers felt that support staff had had a positive influence on them. Teachers at all three waves were quite clear that their job satisfaction was positively affected by support staff. Two thirds of teachers in Wave 2 and 3 said that the member of support staff they worked with in the last week had led to a large or slight increase in job satisfaction, with only 7% at both waves saying that the support staff had decreased their job satisfaction. TA equivalent staff and technicians at Waves 2 and 3 were most likely to be associated with an increase in job satisfaction. Answers to an open-ended question in the Wave 3 TQ gave more detail on why teacher's job satisfaction was affected. The four main reasons were:

- support staff helped meet more of the individual needs of their pupils;

- pupils' learning and achievement were enhanced;

- because of the personal qualities and skills of the support staff;

- time available for teaching was increased and its quality improved.

The results from the TQ also showed that support staff had a positive impact on teachers' stress levels, with about two thirds of teachers saying that support staff led to a decrease in stress in Wave 3 and only 8% leading to an increase in stress. This was similar to Waves 1 and 2. In Wave 3, TA equivalent, pupil welfare, technicians and administrative support staff were most likely to cause a decrease in teacher stress. Not only classroom based support staff had helped; ICT Technicians also had a positive effect. It was a general observation from case studies that technical problems can cause a lot of stress but that this is reduced if the problems can be resolved. Answers to the TQ open question showed that the impact on teachers' stress levels was because:

- classroom based support staff led to teachers' workload being reduced since certain tasks such as paperwork and resources could be delegated to others;

- teaching had changed due to working with support staff;

- more pupils were being supported or were able to take part due to the extra help in the classroom;

- the behaviour of supported pupils improved.

That administrative staff did not have a larger effect on teacher job satisfaction and levels of stress is perhaps surprising given the way they have taken on many of the teachers' clerical and routine and tasks. Teachers seem to have their satisfaction affected more by staff who have a direct role with pupils although it seems to be administrative staff who had the biggest contribution to their reduced workload.

Once again, as with workloads, in a minority of cases support staff had resulted in decreases in satisfaction and increased levels of stress, e.g., because teachers felt they have to do more planning and preparation. Some teachers also said that personal qualities of support staff, such as a reluctance to do tasks and a lack of initiative, could cause problems for the teacher. However, whilst an increase in workload may have a negative impact for a minority on job satisfaction and stress, the positive effects of support staff seem from a teacher's perspective to far outweigh this.

6.2 Effect of support staff on teaching

The effect of support staff on teachers in terms of workloads, job satisfaction and levels of stress can be distinguished from effects of support staff on teaching more directly. This was addressed in two different ways in the study - through teachers' experiences as expressed in answers to open-ended questions in the TQ asking them to say how support staff had affected their own teaching and in Strand 2 Wave 1 systematic observations.

Analysis of open-ended answers at Wave 2 showed that teachers felt that the main benefits of support staff for their own teaching were because they brought specialist help to the classroom, they allowed more teaching; they had a positive effect on the curriculum and tasks and activities offered; and because they could take on specific pupils. There were similar reasons given at Wave 3: bringing specialist help, allowing more teaching, removing administrative and routine tasks, and allowing more time for planning and preparation. One can see that the benefits of support staff, from a teacher's point of view, stem largely from providing specialist skills, extending the curriculum and their function of taking on particular pupils, usually those who have difficulties, thus allowing more individual attention. The benefits of support staff to teaching are therefore not in terms of enhancing teachers' own interactions with pupils in need of support, but rather in terms of allowing more time with the rest of the class. This interpretation is clearly supported by the systematic observation results from Strand 2 Wave 1, which we comment on now.

6.3 Effect of support staff on teaching: systematic observation results

The results describing teachers' experience of the impact of support staff on teaching were systematically collected and analysed but still rely on the reports of teachers. While there is no reason to think the reports are unreliable they are still based on open-ended, subjective judgements. In Strand 2 Wave 1 we were also able to address the impact of support staff on teaching through the use of detailed systematic observations, using an observations schedule of proven reliability and set time intervals within which observations were coded (Blatchford et al., 2008; Blatchford, Bassett, Brown and Webster, 2009). These results indicated that the presence of support staff had two general beneficial effects on teaching. First, support staff seem to allow more *individualisation of attention from adults*, as seen in the greater amount of individual attention ('focus') and the reduced amount of whole class teaching. Second, there seemed to be benefits in terms of *classroom control*, with the presence of support staff leading to reductions in the amount of talk from adults (teachers or support staff) dealing with negative behaviour. These benefits are similar to those found in studies of the effect of class size reductions on pupil behaviour (Blatchford, Bassett and Brown, 2005).

Underlying this general effect there were several differences between primary and secondary schools and differences between pupils with and without SEN. In primary schools all pupils seemed to benefit from support staff presence in terms of more individualised attention for pupils, and better classroom control. At secondary level all pupils benefitted again in terms of

better classroom control and also more overall teaching. But it was pupils at secondary on School Action or with SEN in particular who received more individualised attention. This last finding reflects other results from the study which indicated that the deployment of classroom based support staff varied between the two sectors. While support staff in primary schools were more likely to be classroom based and interact with other pupils in a group, as well as those they were supporting, in secondary schools support staff tended to interact more exclusively with the pupil they were supporting. In such circumstances it is no surprise if the supported pupils showed most marked effects of individual attention. We return to this finding later when considering results on pupils' 'Positive Approaches to Learning'.

But perhaps the most notable result from the systematic observation study was that the overall increase in individual attention as a result of the presence of support staff is explained by the increase in individual interactions with support staff themselves and not the teacher. When we looked separately just at teacher to pupil interactions we found that overall teacher-pupil interactions decreased at both primary and secondary and at secondary level the presence of support staff led to less individual attention from them. In this sense support staff provided alternative, rather than additional, support.

6.4 The effect of support staff on pupil behaviour and learning

We now turn to impact of support staff on pupils. We analysed around 4000 teacher questionnaires over the three waves and they were mostly positive about the impact of support staff on pupil behaviour and learning. At Wave 2 the four most common ways that pupils were seen to benefit were in terms of: taking on specific pupils; bringing specialist help to the teacher & classroom: e.g., technology skills, counselling, careers advice; having a positive impact on the pupils' behaviour, discipline, social skills or behaviour; and allowing individualisation and differentiation. At Wave 3 the main ways support staff benefited pupils was in terms of improving pupils' attitudes and motivation to work; encouraging a general positive effect on learning and behaviour; having an indirect effect on learning and behaviour; and allowing more individualisation and differentiation. There was therefore a good deal of similarity across the two waves. One can see again that the benefits of support staff, from a teacher's point of view, stem largely from their function of taking on particular pupils and therefore allowing individualisation and differentiation, and therefore allowing the teacher to spend more time with the rest of the class and devote more time to teaching, and also in terms of having a general positive effect on behaviour, attitudes, social skills and motivation.

As we said in the Strand 2 Wave 1 report (Blatchford et al., 2008), it was noticeable that teachers tended not to refer to pupil attainment and learning when addressing the benefits and effects of support staff, even when they are considering classroom based support staff and were specifically asked to consider effects on pupil behaviour and learning. Instead we found that most of the main factors identified by teachers concerning effects on pupils were more about effects on teachers and teaching than pupil outcomes. When teachers did mention effects on pupils the main benefits were not so much on learning or attainment but on motivation, social skills and behaviour. This trend was confirmed in the Strand 2 Wave 2 case studies. This is not to argue that these aspects are unimportant but we have found in this study, and in previous research (Blatchford et al., 2007b), that there is a general tendency for heads and teachers to voice a generally positive but largely impressionistic view of the benefits of support staff for pupil learning and attainment, rather than one based on hard evidence. This may be a part of a wider phenomenon, in line with that identified by Moyles and Suschitsky (1997), who argue that teachers often hold 'tacit' rather than 'explicit' knowledge. They view teachers as 'experts' who, however, 'often do not recognise their own skills and rarely articulate this higher level of

understanding' (p99). But it looks as if there is an additional lack of awareness, or at least articulation, when it comes to the impact of support staff on academic outcomes.

6.5 Impact of support staff on pupil engagement and active interaction with adults: systematic observations

Results from teacher views, as discussed above, are relevant but it is also important to systematically study in other more objective ways the effects of support staff on classroom behaviour, approaches to learning and academic outcomes.

In the same systematic observation study as reported above we also examined effects of the presence of support staff on pupil behaviour (rather than effects on teaching interactions). These results indicated that the presence of support staff had a seemingly beneficial effect on pupils in terms of: 1.increasing the amount of *classroom engagement*, as seen in the increase in pupil on task, and the reduction in off task, behaviour. 2. allowing pupils to have a more *active role in interactions with adults*, as seen in the extent of beginning interactions, responding to adults and sustaining interactions. However, as with results on individual attention, when we looked separately just at teacher to pupil interactions we found that at secondary level the presence of support staff led to less active interactions with teachers, which, in line with what was said in Section 6.3, suggests that the active interactions are with support staff but this is instead of active interactions with teachers. The results are shown in full in Blatchford, Bassett, Brown and Webster (2009).

As in the analysis of systematic observation results on adult pupil interaction, there were several differences between primary and secondary schools and differences between pupils with and without SEN. In primary schools all pupils seem to benefit from support staff presence in terms of a more active pupil role in interaction with adults. Pupils with non-SEN showed more classroom engagement. For secondary schools there was more total on task behaviour for School Action and SEN groups, and less total off task behaviour for the SEN group only. There is therefore a strong suggestion that the presence of support staff at secondary school in particular is of benefit in improving the attention of pupils in most need.

6.6 Impact of support staff on pupils' 'positive approaches to learning' (PAL)

Some research has indicated that one consequence of TA support may be that pupils become reliant on the TA and less willing to engage in independent work (Giangreco, Edelman, Luiselli and MacFarland, 1997; Moyles and Suschitsky, 1997). Ofsted (2004) have suggested that TA individual attention can help pupil engagement but adversely affect independent work. In the DISS study we addressed the impact of support staff on pupils' approaches to learning at both Strand 2 Wave 1 and Strand 2 Wave 2 through analysis of teacher ratings on eight dimensions: distractibility; task confidence; motivation; disruptiveness; independence; relationships with other pupils; completion of assigned work; and following instructions from adults. Teachers were asked near the end of the school year to say for each dimension whether the pupils had improved over the year, stayed the same or deteriorated over the year. Results for Wave 1 were presented in the Strand 2 Wave 1 report (Blatchford et al., 2008).

As explained in the results section (4.2), we decided to change the way the analysis was done during Wave 2, in particular by including a measure of prior attainment in the statistical models, thus bringing the PAL analysis in line with the analyses of support in relation to attainment outcomes. As a result of this, the generally positive effect of support on improvements in pupils' behaviour for the youngest age group (Year 1) in Wave 1 disappeared. Although there were

several other changes to the analyses it looks as if the main reason for the change in Year 1 results is that it is prior attainment that is accounting for the earlier results. Results for the later years (Years 3, 7 and 10) were similar to those reported in the Strand 2 Wave 1 report.

The study was repeated with a larger sample of pupils at Strand 2 Wave 2 and showed no statistically significant effects at Year 2 or Year 6. In contrast, at secondary age level there were highly significant effects of the level of 'additional' support on all eight of the positive approaches to learning outcomes in Year 9 (the end of Key Stage 3). These results were found even when potentially confounding factors like prior attainment, SEN status and gender were accounted for. The main effects were between the pupils with a high level of support and those with a low level of support. The largest effect was an increase in good relationships with peers which was ten times more likely with high levels additional support compared to low amounts of support. High levels of additional support also lead to pupils being eight times more likely to be less distracted, not disruptive and be independent. Pupils were six times more likely to improve in following instructions when they received high levels of support, five times more likely to become more confident and four times more likely to become motivated and complete work.

It therefore seems that at secondary level, at the end of Key Stage 3, the support provided by support staff is having a positive effect, consistent with teachers' views, on supported pupils' motivation, independence, etc. That this effect is found in Wave 2 at secondary only, suggests that the explanatory processes at work differ between primary and secondary sectors. In one respect these results are unexpected because in Wave 1 we found little evidence of any effect on the nearest equivalent age level - Year 10. The disparity in results between Year 10 and Year 9 between Wave 1 and 2 is not easy to explain, but may be connected to differences between the two waves, the main one being the larger sample in Wave 2, and hence a greater likelihood of showing effects of support, should they be there.

The strong positive result for Year 9 in Wave 2 may be connected to other findings from the study. As we have said above, other results indicate differences in the deployment of classroom based support staff between primary and secondary sectors. While support staff in primary schools were more likely to be classroom based and interact with other pupils in a group, as well as those they were supporting, in secondary schools support staff tended to interact more exclusively with the pupil they were supporting.

As with the increased individual attention found at secondary level in the systematic observation study, it may therefore come as no surprise if the supported pupils showed most effects in terms of the PAL dimensions. Though we cannot be sure, it may be also be that our results are picking up something connected to Year 9 being the end of Key Stage 3 and the first year in the secondary years when pupils have to take end of Key Stage tests. It is possible that targeted support in this year is conducted with a clear aim in mind (to help the students do well in their end of year tests) and this may be having a beneficial effect, in terms of teachers' judgements about pupils' attitudes to learning. The aims of the support may be different to that offered at primary level; e.g., in Year 9 it is more specifically directed at ensuring that each pupil learns to work independently, with confidence and motivation.

The positive effect on PAL scores at Year 9 does not appear to be consistent with some suggestions from the Strand 2 Wave 1 and 2 case studies which indicated that pupils who have high levels of support may become too reliant on close, frequent TA support, which has become increasingly personalised over time. In the case study visits, instances of pupils disengaging during whole-class teacher input were noted, with pupils perhaps assuming that the TA would repeat it later. It is difficult to exactly compare the individual observations from the case studies

with the pooled ratings from multiple teachers in the PAL analysis. The two sources of data may also be assessing somewhat different things. It is possible that although teachers may have a positive view of pupils' growing confidence, as reflected in the PAL ratings, pupils may still fail to develop the independent learning skills necessary to perform effectively in exams, where all adult support is withdrawn.

6.7 Impact of support staff on pupil attainment

We found a negative relationship between the amount of additional support provided by support staff and the academic progress of pupils in Years 1, 3 and 7 (English and mathematics) and 10 (English) in Wave 1, and Years 2, 6 and 9 (English, mathematics and science) for Wave 2. This result still stood after having controlled for 6-8 main pupil characteristics which might potentially confound the relationship. The inclusion of prior attainment in both Wave 1 and 2 means that in practice we can conclude that the negative effect was on progress over the school year as well as end of year attainment.

For Wave 1 the strongest effect was found for the overall measure of support covering the whole school year. This was the estimate, given by teachers, SENCOs and support staff, of the amount of additional support, that is, that provided by support staff, in the core subjects of English, mathematics and science. In Years 1, 3 and 7 in English and mathematics there was a consistent negative relationship between the amount of such support a pupil received and the progress they made; the more support, the less progress made, even when the other potentially confounding factors were taken into account.

Given the important nature of these findings on attainment, the study was repeated on a separate and larger sample (Wave 2). This was conducted at the end of Key Stages 1, 2 and 3, with end of year assessments in Year 2, 6 and 9, and this again showed a negative relationship between the amount of support and pupils' academic progress in English and mathematics, and this time for science as well, even after carefully controlling for other eight potentially confounding factors like SEN status (i.e., School Action Plus and statemented). The negative relationship between support and academic progress was therefore replicated across two different studies (Waves 1 and 2) and seven different year groups altogether. The finding therefore seems to be a clear one. There was some evidence that the effect was more marked for pupils with a higher level of SEN - this was evident in Wave 2 Year 2 for mathematics, and Wave 2 Year 6 for English and mathematics - but the effect was still generally evident for non-SEN pupils.

The other four measures of support used at Wave 1 were drawn from the systematic observation study. These had the advantage of being a more precise account of the contact between pupils and support staff but stemmed from the relatively short amount of time spent in each school - from two to four days. Though the aim was for the observations to provide a representative picture, and we have no reason to conclude that they were in any way unusual, it was still only a relatively small window on pupils' classroom experiences over a school year. Once again we found a general trend towards a negative relationship between support staff contact and pupils' academic progress over the year.

The four observation measures used at Wave 1 were conceptualised in terms of levels with each getting closer to the pupil. Measures described the support staff role in relation to the target pupil in terms of just being in the classroom at the same time ('presence'), being physically close to the pupil ('proximity'), interacting in some form with the pupil ('interaction'), and interacting with the pupil when they are the focus of attention ('attention'). At Wave 1 the effects were most

marked for the support staff 'presence' measure for English in Years 1 and 7 and for science in Years 1 and 3; for the 'proximity' measure in English for Years 3 and 10, and for mathematics and science in Year 3; for the 'interaction' measure for English in Year 3, Year 7 and Year 10, for mathematics in Year 3 and for science in Year 1 and Year 3; and for the 'attention' variable for English in Year 3, though effects were sometimes stronger for pupils with and without SEN. Generally speaking the effects were less marked for the variable closest to the pupil, i.e., the 'attention' variable, though it may not be wise to read too much into this finding because it is also the case that the numbers of observations are less frequent and there are less available for analysis.

Shortly we will discuss possible explanations for these findings, but first we address the effect on the rest of the class of support allocated to some pupils.

6.8 Benefits for non-supported pupils?

A consistent view of teachers, when they considered the benefits of support staff for their own teaching and pupils' learning and behaviour, is that the TA's presence allows more teacher attention to the rest of the class and therefore better progress for the rest of the class. It was not possible to analyse this fully in Wave 1 because we did not have data on the whole class. But analyses of Wave 2 data examined the difference in attainment between low supported pupils in classes where the rest of the class received little support and low supported pupils in classes where the rest of the class received more support. Results were markedly different at the three age levels studied (i.e., Years 2, 6 and 9).

The results at Year 2 indicated differing results for the three subjects. In English, support for other pupils in the class has little impact upon the unsupported pupils. In science, the effect was positive in the sense that low supported pupils in classes where a lot of pupils received support obtained higher attainment scores that low supported pupils in classes where a lower number of pupils received support. However the opposite result was observed for mathematics, where it was found that if other pupils in the class received additional support this had a detrimental effect on attainment for pupils who receive little support. At the end of the primary school stage – in Year 6 - there was no effect at all on the non or low supported pupils.

However in Year 9, by the end of Key Stage 3, unsupported pupils or those with little support made less progress in mathematics, English and science when a larger proportion of pupils in the class were supported compared to when fewer pupils in the class were supported. It therefore seems that increased support does not, as might have been expected, have a positive effect on other, unsupported pupils; indeed, it seems to have a detrimental effect on the progress of non or low supported pupils in all three school subjects.

These results therefore suggest that there is a change between primary and secondary stages in the effects on unsupported pupils, in classes where other pupils receive support. At Year 2 (the end of Key Stage 1) effects are positive for science and negative for mathematics, while for Year 9 (end of Key Stage 3) effects are negative for all three subjects. It is difficult on the basis of data collected in the DISS project to account for these results. It is also difficult to know what part setting of pupils (i.e., when pupils are allocated to classes based on attainment), which might be expected in mathematics and science at Year 9, might have played on the results. Further exploration of effects on non- supported pupils is needed. Overall, though, there is little sign of a positive effect on non-supported pupils, contrary to teachers' views.

6.9 Explanations of the findings on pupil academic progress

We now return to the negative relationship between the amount of extra support and pupils' academic progress. What might explain this result? Given that the effect appears across different measures of support and different year groups the explanation would need to include systemic and general reasons. In this section we examine several possible alternative explanations.

The study was longitudinal and not just cross sectional, and we can therefore say that the statistical analysis examined relationships between the amount of support and pupils' educational *progress* (rather than just attainment at the end of year) which might be expected to be connected to difficulties shown by pupils, but we still found an independent effect of the amount of support.

6.9.1 Pupil explanations

The important question to address is whether the negative relationship means that there is something about additional support which is having an effect on pupil progress or whether the relationship is explained by some other factor. It is a basic tenet of research design that only a randomised experimental design can provide absolute proof that a given variable has a causal effect on an outcome, in this case, that the amount of support causes poorer progress. In this study the aim was not to isolate and manipulate aspects of support in order to assess their consequences, but, rather, to adopt an alternative naturalistic longitudinal design within which the key explanatory variable of interest (the amount of support) was examined as it occurred under natural conditions and then assess it in relation to the main outcome variable of interest (attainment), while controlling for other factors likely to confound or explain this relationship. Such an approach is valuable because it more precisely captures processes and factors connected to the everyday world of support in schools, but the results cannot be taken as complete proof of causality.

A limitation of the DISS research is that the measure of support used is rather general. The main measure was an estimate given by staff of the amount of additional support received by each pupil over the school year. This measure therefore accounts for the amount of support, but does not address the type of support or its quality. Nevertheless, even this relatively general measure of support was implicated in very clear, consistent and statistically significant results. Furthermore the observation measures of support, which were closer to the moment by moment support given to pupils, produced results that were in the same direction.

Perhaps the most obvious explanation is that they are attributable to the pupil rather than the support they receive; that is, pupils are likely to receive support because they are performing less well or have a particular learning or behavioural problem, and it is this that explains the relationship between support and attainment. The extra support therefore reflects the underlying correlation between pupil characteristics and progress, but may not itself affect progress. Unsurprisingly, the data do suggest that pupils with lower attainment or SEN tended to have more support than those with higher baseline attainment. This was expected, as both the case studies and questionnaires have previously indicated that the allocation of support is not at random but usually on the basis of how well the pupil is doing academically or because they have an SEN. However, it is unlikely that this explanation fully accounts for the relationship between support and pupil attainment because the pupil characteristics that are likely to be the basis for the provision of extra support were included in the statistical analysis. The following variables were included: prior attainment (collected at the beginning of the year), SEN status

(statemented, School Action, School Action Plus), gender, pupil family income (indexed by eligibility for free school meals), income deprivation, ethnic group, pupil age, and English as an additional language. We therefore examined as far as possible the *independent* effect of additional support over and above these pupil characteristics.

It might be argued that there will be other information on pupils available to a teacher, extra to those described above, and not captured numerically, which might be related to academic progress, and which might therefore bias the results. Teachers experience a pupil on an everyday basis and gain a more rounded picture of a pupil beyond the eight variables cited above. These extra factors could include pupil behaviour and attitudes, parental support or attitudes, or family cohesion. It is important to realise that in order to explain the relationship between support and attainment found in this study these additional characteristics would need to be related not only to progress but also to extra support; they would need, therefore, to inform the decision to give additional support and this would need to be over and above anything captured by the eight included measures. However, evidence from the case studies and reports on the reasons for support for individual pupils, completed by teachers and SENCOs during the course of the systematic study, indicated that support was allocated because of learning difficulties, problems with literacy or numeracy, behaviour and communication difficulties, low attainment or SEN status, which would have been captured in the variables included in the statistical analysis. It might also be noted that parallel results on the effect of support on the Positive Approaches to Learning (PAL) measures showed quite different kinds of results. Though the importance of unmeasured variables cannot be ruled out it therefore seems unlikely that any unmeasured pupil factors are biasing the relationship between the level of support and progress in attainment. Overall, it is worrying that extra support does not have a positive relationship with pupil progress.

There are a number of other technical issues connected to the possible role of pupil characteristics in results on academic progress, and interested readers can find a fuller discussion of these in Appendix 6.

6.9.2 Support staff characteristics: qualifications and experience

One other possible explanation is that it may owe something to the varying levels of experience and qualifications of support staff. Some support staff are less well qualified than teachers and this might be expected to be related to the educational progress of pupils that are supported. It is not possible to examine this possible explanation directly in the DISS study, because pupils may be supported by several TAs and although we have measures of overall support received we do not have complete information on the experience and qualifications of individual support staff who supported pupils over the course of a school year, which we could then relate to educational progress. It might be noted, however, that where we have in previous studies been able to conduct such an analysis, background staff characteristics have not been found to have an impact on pupil progress (Blatchford, Russell, Bassett, Brown, and Martin, 2004). Further research is therefore required.

6.9.3 Other possible explanations of relationships between support and pupil educational progress

Whilst theoretically possible, it therefore seems unlikely that endogenous characteristics of pupils are the main explanation of the negative relationship between support and educational progress. It is also not possible to judge the role support staff experience and qualifications plays in pupil progress. In any case, we argue that the effectiveness of classroom based support

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staff, in relation to pupil educational progress, is unlikely to be just about individual properties of pupils or support staff but is likely to be connected to wider factors within which support staff operate and over which they may have very little control. While it is not possible on the basis of the DISS data to test statistically possible alternative explanations, in the following sections of this discussion we draw on all findings from the project - Strand 1 Waves 1-3 and also Strand 2 Waves 1 and 2 - in order to examine several possible ways this wider role of support staff might play a part in explaining the relationship found between the amount of support and educational progress.

6.9.4 Preparation of support staff

One key facet of this wider context is the extent and quality of the preparation of support staff and also the preparation of teachers for whom they work. Drawing on information from Strands 1 and 2 what we call 'preparedness' takes several forms.

a. Communication between teachers and TAs

A constant theme of the DISS project, reflected in Strand 1 and Strand 2 findings, has been the lack of meaningful time for joint planning and preparation before, and for feedback and reflection after, lessons (see Blatchford et al., 2007a). Scheduled slots in which support staff could meet with teachers were limited; instead, lesson preparation and feedback were commonly brief and ad hoc. A number of support staff met with teachers in their own unpaid time. Findings from the case studies showed some support staff going into lessons 'blind', and not surprisingly, there was a knock-on effect for them in terms of managing pupils who were aware of cover supervisors' lack of preparedness and uncertainty about the lesson. There was a tendency towards the use of written forms of communication between support staff and teachers, in order to impart instructions and/or give feedback, in lieu of having timetabled face-to-face liaison. All this means that classroom based support staff can be less prepared than they might be and the potential for effective pedagogical involvement reduced.

b. Training of teachers for working with TAs

Another possible explanation is related to the training of teachers in regard to their contacts with support staff. We know from Strand 1 that the majority of teachers had not had training to help them work with support staff in classrooms. Though we cannot exactly test the relationship with educational outcomes on the basis of the DISS data it seems reasonable – given the ubiquitous presence of support staff in classrooms, and the fact that the number of teachers involved in training support staff themselves had increased over the three waves of Strand 1 - to suggest that a substantial component of all teacher training courses should involve ways of working successfully with support staff. This should recognise the reality that TAs are working in a pedagogical way with pupils, and consider in a systematic way the management of TA deployment in relation to managerial, pedagogical and curriculum concerns.

c. Support staff pedagogical and subject knowledge

Differences between teachers and support staff in their interactions with pupils are likely to be underpinned by two concepts: subject knowledge and pedagogical knowledge.

Subject knowledge.

The DISS findings suggest that support staff deployment is influenced by teachers' (and headteachers') perceptions of TAs' subject knowledge. TAs are likely to have a less advanced subject knowledge in comparison to teachers and so it seems commonsensical for them to be deployed with the lower attaining pupils, where the level of work is at a more rudimentary level. We have seen that teachers like this because it then allows them to then work with the rest of the class where the level of work is generally at a higher level. But it also means that the pupils in most need are often supported by staff with lower levels of subject knowledge, compared to teachers. This is a problem if it is thought that pupils with difficulties in learning require an advanced level of subject knowledge, involving a high level of conceptual understanding and the experience to break tasks down and design them in order to build up skill and understanding.

Though we cannot be sure on the basis of the DISS findings, it seems likely that level of subject knowledge will be connected to the quality of TA support and interactions with pupils. Greater confidence, e.g., in science and mathematics, is likely to inform the interactions one has with pupils, and their effectiveness. We have sometimes found that TAs have a level of expertise or a specialism that is equal to or ahead of teachers, e.g., in ICT and additional languages. In such cases teachers and pupils obviously benefit from support staff input. This was one of the main ways in which teachers valued TAs. But, more often, TAs subject knowledge did not match that of teachers.

Pedagogical knowledge

Calder (2003) has argued that: "To carry out …tasks well, an assistant requires skill in listening and talking; in using appropriate vocabulary; in being alert to the possibility that a child might appear to be understanding when in fact this is not the case. Effective support for individual children requires an understanding of how children learn, why some children fail to learn and what strategies might be useful in particular cases… This body of knowledge is core knowledge in I.T.T and its importance for assistants should not be underestimated" (p33). It might be argued that dealing with the lowest attaining or most needy pupils might mean that staff need *more* advanced or perhaps different pedagogical knowledge than in the case of other pupils. One effect of TAs taking on a few individuals or a small group is that teachers' pedagogical expertise can be applied to the rest of the class but not include the pupils supported by TAs. There is a danger that providing support for such pupils through delegation to support staff means the teacher does not feel such a need to consider pedagogical approaches that might benefit the whole class.

Overall, we argue that there needs to be careful attention given to the levels of subject and pedagogical knowledge of staff who work with lower attaining pupils and those in most need.

6.9.5 Deployment of support staff

As well as the preparation of support staff and teachers, the effectiveness of support staff also needs to be considered in relation to decisions about their deployment in classrooms and schools. The findings from the DISS project make it clear that this needs to be grounded in the reality that classroom based support staff mainly have a direct pedagogical role in the classroom, and that they are routinely deployed to work with lower attaining and SEN pupils, especially in mathematics and English. A number of interviewees in case studies from Strand 2 Wave 1 and 2 commented that without support staff, schools would have struggled to maintain this provision.

Whilst there are clear advantages to localised and, very often, personalised support, and there is little doubt this has been a main part of inclusion policies in schools, there are broader consequences in terms of pupil separation. The effect of what are now established models of support staff deployment - working in place of teachers and delivering intervention sessions - is that pupils can be cut off from their teachers, the curriculum and their peers.

The DISS findings show there are two main forms of separation:

a. Separation from interactions with teachers

We know from the systematic observation results and other sources of data that support staff tend to be deployed with support lower attaining pupils and those in most need. We have found that the presence of support staff has benefits in terms of more individualised attention and a more active and sustained role for pupils in interactions with adults. However, pupils with more classroom support have less interaction with the teacher and at secondary level there is less individual interaction between teachers and pupils and less active contributions from pupils to teachers. As said above, this seems to mean that, as a consequence of being supported by TAs, pupils can miss out on everyday mainstream teacher to pupil interactions. This can occur in the context of within class support and also occasions when support staff take pupils out of the classroom, e.g., for literacy catch up programmes.

In some cases we found that teachers deliberately spent less time with these pupils, handing over moment by moment responsibility to the TA. Whatever the role of this kind of separation in explaining effects on academic progress, overall we query the way in which lower attaining pupils can now get *less* of the teacher's attention. It would seem appropriate to argue that all pupils should get at least the same amount of a teacher's time, and, indeed, that those in most need are most likely to benefit from more, not less.

b. Separation in curriculum coverage and planning

A second form of separation for supported pupils is in terms of the curriculum. The explanation here, as intimated above, would be that supported pupils spend less time in mainstream curriculum coverage, and coverage is interrupted. This may then have a negative effect on academic progress, particularly when couched in terms of tests / ratings of national curriculum levels achieved, as in the DISS project. Ofsted (2004) have commented on how pupils with learning and behavioural difficulties can be deprived of access to a broad curriculum.

Strand 2 Waves 1 and 2 visits showed that pupils who receive among the highest levels of support can be withdrawn from classes for pastoral-type support, literacy or numeracy intervention, or 'catch up'/personal study sessions led by support staff, all of which reduce the amount of teacher-led learning each week. There are potential difficulties regarding pupils' withdrawal from, and assimilation back into, lessons and connecting with class work. Strand 2 Wave 2 structured observations showed a high degree of differentiation in the tasks of supported pupils when being supported out of the classroom. At primary level, 61% worked on a different task and 21% on a related but differentiated task, and at secondary level, 87% worked on a different task (with no instances of pupils working on related but differentiated task). Though understandable as a pedagogical strategy, the effect is to separate supported pupils from coverage of mainstream curriculum topics experienced by the rest of the class.

There are also questions about the type of activities engaged in when supported by support staff. Tasks that attend to pupils' stronger functions, or build confidence by practising and over-practising basic skills, can occur at the expense of tasks which can help pupils make more significant progress. Support staff were sometimes put into contexts where repetitive low level tasks could be a feature of some sessions they lead. In Strand 2 Wave 2 case studies, for example, it was found that some teachers deliberately planned lower order tasks for cover lessons and science teachers postponed practical lessons as TAs or cover supervisors were not qualified to conduct experiments - so lessons consisted instead of book work or videos.

Teachers can rightly say they have responsibility for curriculum planning for the whole class, but we have seen that in practice the lesson by lesson curriculum planning and implementation for some pupils can be delegated to support staff. This then reduces the amount of teacher planning for tasks set to supported pupils, e.g., in terms of tasks that they can complete successfully (Ofsted, 2004). It therefore seems appropriate to suggest that teachers need to take effective responsibility for the curriculum and pedagogical planning for all pupils in the class. This would not necessarily mean involvement of teachers in direct face-to-face interactions; it might involve the use of pedagogical ideas separate from teacher input, for example, teachers could consider ways in which pupils can be involved in collaborative work in mixed ability groups or peer learning or tutoring. It seems that supported pupils can be excluded from these alternative approaches, especially in the core subjects.

6.9.6 Practice of support staff

The explanation here would be that support staff are less educationally effective than teachers in their face-to-face interactions with pupils and more time with them would lead to less progress. Case study results from Strand 2 Wave 1 showed that teachers sometimes valued support staff because they understood pupils better, e.g., because they are more likely to live locally, and because they worked so closely with them, but it was also found that TA interactions with pupils could be less academically demanding and focused on learning. Across the Strand 2 case studies it was widely noted that interactions between support staff and pupils were often less formal and more intimate than those between teachers and pupils. There may be advantages to this type of talk in terms of pupil behaviour, engagement, participation and socialisation. However, it was concluded on the basis of these school visits that the register used by some TAs with particular individuals in some learning contexts, together with the language they used (e.g. primary TAs addressing pupils as 'darling' and 'my love'), would not create conditions suitable to advancing learning.

Moyles and Suschitsky (1997) found that TAs could encourage dependency because they could prioritise the outcomes of activities or procedural matters rather than encouraging pupils to think for themselves. It has also been suggested by Ofsted (2004) that TAs may be less able to break tasks down and may be more inclined to keep pupils on-task rather than on what pupils need in order to complete tasks. There may be less stress on improving understanding and skills. "This was a common reason why a significant number of pupils with SEN made too little progress, despite good teaching to the majority of the class" (2004, p16).

Results from the Strand 2 Wave 1 systematic observations provided systematic data on the effects of support staff on pupil behaviour and interactions, but results were at a general level, e.g., in terms of the level of description of support staff and pupil interaction. This is why as part of Strand 2 Wave 2 we conducted a close analysis of transcripts of teacher and TA talk to pupils. This showed a number of differences between the talk of TAs and teachers in the same classroom. Two key dimensions suggested by this analysis on which teachers and TAs differed were an emphasis on learning vs. completing task/procedures; and a proactive vs. a reactive role in classroom interactions. TAs tended to be more concerned with the completion of tasks rather than learning and understanding and they tended to be reactive rather than proactive (possibly because they had little time to prepare for, or input into, the session).

In more detail, we found that teachers had a formal style of delivery while TAs were more informal, chatty and more likely to use colloquial talk with pupils. Both teachers and TAs were usually relaxed and positive with pupils but some TAs were very informal and familiar with pupils, and TAs could provide them with answers and complete work for them. Teachers spent more time explaining concepts than TAs and TA explanations were sometimes inaccurate or confusing; teachers used prompts and questions to encourage thinking and check understanding while TAs more frequently supplied pupils with answers; teachers tended to use feedback to encourage learning while TAs more often were concerned with task completion. There were differences as well in dealing with the purpose of lesson talk: teachers but not TAs informed pupils about the focus of the lesson; teachers more than TAs linked the current lesson to student prior knowledge, attempted to promote student thinking and cognitive engagement in a task, while more TA talk was about non-task matters.

These differences between TAs and teachers were based for the most part on data collected on the interactions of TAs and pupils when working in the classroom at the same time as teachers. Although the structured observations showed that this constitutes the most prevalent form of deployment of TAs, it might be thought that the differences found would not be so marked when interactions between TAs and pupils are examined out of the classroom, e.g., in targeted curriculum interventions. In the classroom, the TA often has to respond to lessons planned by the teacher and this may explain why they appeared to be a more 'reactive' rather than 'proactive' mode. Situations out of the classroom may be different, with TAs in more direct control of the material covered. Studies of the effectiveness of specific curriculum interventions given by support staff with appropriate training (e.g., Savage and Carless, 2008) appear to show more positive results.

Although results on differences between in class vs. out of class TA support for pupils need to be treated cautiously, due to the small numbers of out of class sessions included, they showed that differences between teachers and TAs were more marked out of the classroom, e.g., they involved a lot of prompting and little explaining or focus on understanding by TAs. This appeared to owe much to situational factors, with the work out of class involving TAs supporting individuals in a personalised way, practising work already done in class and prompting them to keep on task and complete the work.

6.9.7 Summing up explanations for effect on attainment

The discussion so far suggests five main explanations for the findings on amount of support and pupil academic progress:

1. Characteristics of the pupils themselves not captured in the pupil measures used so far, such as prior attainment and SEN status, which account for both the extra support and the lower progress.

2. Characteristics of support staff in terms of e.g., experience and qualifications, and pedagogical and subject knowledge.

3. Preparation of support staff in terms of time for planning with teachers and training.

4. Deployment in terms of pupil separation from teachers and the curriculum.

5. Practice of support staff in terms of face-to-face interactions with pupils.

We have seen that the first explanation does not seem to account fully for the effect, because care was taken to control for important pupil characteristics that are likely to be related to progress and allocation of support. It is not possible on the basis of the DISS data to exactly test through statistical analysis the other explanations. It seems unlikely that there is a single cause. In line with what we have called the 'Wider Pedagogical Role' (WPR) of classroom based support staff, we argue that a consideration of the effectiveness of support should not be personalised or individualised just to characteristics of individual classroom based support staff. This would be to seriously underplay the situational and structural factors within which TAs have to work. The *practice* of support staff needs to be seen in the context of decisions made about their *deployment* by teachers and headteachers, which are outside their control, and also in the context of their '*preparedness*' e.g., in terms of their training for the role (which will influence pedagogical and subject understanding) and the amount of planning, preparation and debriefing/feedback time with teachers. To these might also be added the *conditions of employment* of support staff, e.g., concerning the working of extra hours (Dimension A of the Strand 2 Wave 2 case study analysis). The point here is that this is not the responsibility of the support staff only, or even mainly, but their actions will be in the context of the school's expectations and traditions about deployment.

To these explanations might be added one more point concerning *conceptualisations of progress:* we have seen in Strand 2 Waves 1 and 2 case studies that the academic benefits for supported pupils are not easily or commonly articulated by schools. Ofsted (2006) have concluded that few schools had clearly determined and agreed what they considered to be satisfactory progress for supported pupils. There is general agreement amongst many commentators that schools need to explicitly and rigorously set out the quality of provision and support in relation to anticipated academic outcomes.

In reality it is therefore likely that individual characteristics and situational and structural factors will be important and that there will be a complex interplay of relationships between the various components[25].

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[25] We say more about the WPR model in Webster, Russell, Blatchford, Bassett, Brown and Martin (in preparation).

These negative results on academic progress are troubling but they are consistent with some other studies of support staff generally (Gerber, Finn, Achilles and Boyd-Zacharias, 2001) and support provided for pupils with SEN, e.g., Werts, Zigmond and Leeper (2001) and Loos, Williams and Bailey (1977) found that classroom engagement and on-task behaviour increased when support staff were close to pupils (with disabilities), but Loos et al. also found that this but this did not translate into better pupil learning. Giangreco et al. (1997) found that close continuous proximity of adult support was not beneficial for a pupil's learning identity, e.g., in terms of interference with ownership and responsibility, separation from classmates, impact on peer interactions, limitations on receiving competent instruction, loss of personal control, and interference with instruction of other students. Ofsted (2006) were clear in their conclusion that the provision of additional resources for pupils (they were specifically concerned with pupils with learning difficulties and disabilities) - such as support from teaching assistants - did not ensure good quality intervention or adequate progress for pupils. They conclude that "There was a misconception that provision of additional resources (such as teaching assistants) was the key requirement for individual pupils…" (p2). But the present results go further than these studies and conclusions because they show extension of this unintended negative effect on academic outcomes to other students, not just those with SEN.

However, a recent systematic review by Alborz, Pearson, Farrell and Howes (2009) shows that studies that have examined the effect of support staff when they are prepared and trained for specific curricular interventions (most studies have been in the area of literacy), with support and guidance from the teacher and school about practice, tend to show positive effects on pupil progress. In contrast, the DISS project examined the effect of the amount of support as it occurred under everyday conditions and, as we have seen, there are concerns about their lack of preparedness and the way pupils can be separated from the teacher and the curriculum as a result of being supported by support staff. The DISS study is therefore assessing the effect of support staff under different conditions. The DISS results suggest that this is the way support staff are usually deployed in schools, but the research on targeted interventions also suggest that with appropriate training and guidance support staff can have a positive role to play in pupils' academic progress.

6.9.8 Summing up the impact of support staff

The DISS study has been the first in the UK to address the impact of support staff in a systematic way across multiple outcomes. The results were mixed. We found positive effects of support staff on teachers and teaching, in terms of teacher job satisfaction, stress and workloads; activities passed from teachers to support staff; and teacher views on effects of support staff on their teaching. To these we should add the positive effect of classroom based support staff on classroom control, as shown in the Strand 2 Wave 1 report (Blatchford et al., 2007). This was found in the systematic observation findings and also the case studies, and should not be underestimated as a main contribution to schools, sometimes working under challenging conditions.

Support staff also had beneficial effects on pupils in terms of the effect of support staff on pupil learning and behaviour (from teacher views), and 8 positive approaches to learning (PAL) for example confidence, motivation and ability to work independently and complete assigned work (from teacher ratings in Year 9). We know that teachers like having support staff in the classroom because support staff can give individual attention to children, often, but not always, those in most need. It seems a sensible solution because the teacher can then attend to the rest of the class without interruption. It also allows relatively easy and non-disruptive differentiation in the class. Results from the systematic observation study also showed positive effects of the

presence of support staff on pupil classroom engagement. On the other hand, as we have seen, the negative results concerning pupils' academic progress are worrying.

One possible way of reconciling the positive picture that emerges, particularly from the teachers' positive experience of the effect of support staff, with the PAL and attainment results, is that from the teacher's point of view extra support can free them up to devote more attention to the rest of the class. This is a productive arrangement for them and seems also to be having a positive effect in terms of pupil engagement, classroom control and (at secondary level) in terms of the PAL measures of confidence, motivation, independence, and good relationships with other pupils. On the other hand it seems that this may be at some cost to supported pupils' academic progress, perhaps through the resulting reduction of teacher input.

The picture concerning impact is therefore a mixed one. Though some of the results presented here have identified problems in current deployment and practice we would not want to give the impression that support staff do not have an important role to play. Our general view is that problems may have arisen from assuming that extra support will lead to positive outcomes for pupils without first establishing a clear understanding and view of the role of support staff and how it affects pupils. Classroom based support staff have huge potential in helping teachers and pupils but there are questions raised in this report concerning the way they are currently deployed in schools and this may be one reason why supported pupils may not make as much progress as expected. The findings have wide significance in the context of concern with the lack of progress made by some pupils in school. Given that lower attaining pupils are more likely to be given extra support in schools it is vital that this support is well organised, prepared and effective.

6.9.9 Future research

Four main areas of future research are suggested:

1. Possible explanations for the relationship between the amount of support and pupils' educational progress have been discussed. One task is to articulate these components into a model of support staff work in schools. In line with what has been said above, main components would be characteristics of support staff and their conditions of employment, the preparedness of support staff, e.g., in terms of training and allocated time to plan with teachers, their deployment and their practice, e.g. in terms of face-to-face interactions with pupils. We have called this the 'Wider Pedagogical Role' of support staff.

2. The second main area of research would be to conduct a more fine-grained analysis of impact of support staff, based on the model of the WPR of support staff. The DISS project addressed impact on pupils but we have seen that this was done in a general way using measures of the amount of support in relation to teacher end of year assessments and Government set Key Stage tests, controlling for potentially confounding factors. Though results were clear they now need to be followed up with further research on more qualitative aspects of the support provided for pupils. We propose that there is a strong case for research which seeks to examine effects not just of the amount of support (as in DISS) but particular facets of the Wider Pedagogical Role of support staff on pupil learning, behaviour and attitudes to learning. This study could also attend to alternative forms of assessment, which perhaps provide more detail and address smaller periods of learning (in comparison to beginning and end of year attainment measures). As in the DISS study, one would need to control for a range of factors, including level of pupil need, which might be expected to affect the relationship between WPR and pupil outcomes.

3. But enough is known from the DISS project to help explain the troubling results concerning effects of the amount of support on academic outcomes, and enough is known to be able to develop recommendations on preparedness, deployment and practice, and other dimensions. Recommendations would follow from main findings, e.g., concerning the routine deployment of classroom based support staff to lower attaining pupils and pupils with SEN and the separation of such pupils from teachers and the mainstream curriculum. One strategy would be to now work with a group of schools to develop strong guidance on policy and practice, which could then be used by other schools. Helpful work arising out of other studies could be included (e.g., Vincett, Cremin and Thomas, 2005). This development work would benefit from a careful evaluation in order to inform further policy regarding support staff.

4. This is not just a UK issue. Studies in other countries, e.g., the USA, Finland, and Australia have also called the deployment of teacher assistants or 'aides' into question (e.g., Finn et al., 2000; Takala, 2007). One needs to exercise caution, not the least because the situation may differ in different countries, e.g., with regard to the characteristics and educational qualifications of support staff (for example, TAs in Finland train for one year prior to employment), but comparison of preparedness, deployment and practice across different countries with a tradition of teaching assistants/aides would be valuable in identifying effective practice and help inform policy.

Appendices

Appendix 1 - Support staff now performing each task previously carried out by teachers (Wave 3)

	Task	TA equiv N (%)	Pupil Welfare N (%)	Technic-ians N (%)	Other pupil support N (%)	Facilities N (%)	Admin. N (%)	Site N (%)	Other N (%)
1	Collecting money	119 (32%)	0 (0%)	4 (1%)	2 (<1%)	0 (0%)	247 (65%)	0 (0%)	6 (2%)
2	Chasing absences	26 (5%)	40 (8%)	0 (0%)	0 (0%)	0 (0%)	403 (81%)	0 (0%)	30 (6%)
3	Bulk photocopying	231 (48%)	1 (<1%)	18 (4%)	0 (0%)	0 (0%)	146 (30%)	1 (<1%)	83 (17%)
4	Copy typing	42 (14%)	0 (0%)	3 (1%)	0 (0%)	0 (0%)	257 (84%)	0 (0%)	5 (2%)
5	Producing standard letters	17 (4%)	2 (<1%)	2 (<1%)	0 (0%)	0 (0%)	347 (84%)	0 (0%)	45 (11%)
6	Producing class lists	27 (6%)	0 (0%)	1 (<1%)	1 (<1%)	0 (0%)	400 (89%)	0 (0%)	21 (5%)
7	Record keeping	28 (26%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	75 (61%)	0 (0%)	4 (4%)
8	Filing	185 (61%)	0 (0%)	5 (2%)	1 (<1%)	0 (0%)	108 (35%)	0 (0%)	7 (2%)
9	Classroom display	282 (87%)	0 (0%)	9 (3%)	4 (1%)	0 (0%)	13 (4%)	0 (0%)	18 (6%)
10	Analysing attendance data	16 (3%)	27 (5%)	0 (0%)	0 (0%)	0 (0%)	415 (83%)	0 (0%)	43 (9%)
11	Processing exam results	22 (8%)	1 (<1%)	4 (2%)	3 (1%)	0 (0%)	183 (70%)	0 (0%)	48 (18%)
12	Collating pupil reports	60 (21%)	5 (2%)	0 (0%)	0 (0%)	0 (0%)	197 (69%)	0 (0%)	23 (8%)
13	Administering work experience	27 (14%)	18 (9%)	1 (<1%)	0 (0%)	0 (0%)	53 (27%)	0 (0%)	96 (49%)
14	Administering exams	17 (11%)	0 (0%)	0 (0%)	4 (3%)	0 (0%)	113 (75%)	0 (0%)	17 (11%)
15	Invigilating examinations	29 (25%)	1 (<1%)	0 (0%)	64 (54%)	0 (0%)	17 (14%)	0 (0%)	7 (6%)
16	Admin of teacher cover	27 (8%)	0 (0%)	6 (2%)	47 (14%)	0 (0%)	139 (41%)	0 (0%)	119 (35%)
17	ICT trouble shooting	26 (5%)	0 (0%)	421 (87%)	0 (0%)	0 (0%)	9 (2%)	0 (0%)	30 (6%)
18	Commissioning ICT equip.	9 (2%)	0 (0%)	327 (75%)	0 (0%)	0 (0%)	15 (3%)	1 (<1%)	85 (20%)
19	Ordering supplies	50 (14%)	1 (<1%)	32 (9%)	1 (<1%)	0 (0%)	219 (62%)	9 (3%)	44 (12%)
20	Stocktaking	78 (25%)	1 (<1%)	34 (11%)	0 (0%)	0 (0%)	160 (51%)	5 (2%)	36 (12%)
21	Maintain equipment	81 (31%)	1 (<1%)	37 (14%)	0 (0%)	0 (0%)	82 (32%)	11 (4%)	48 (19%)

22	Minuting meetings	22 (11%)	4 (2%)	0 (0%)	0 (0%)	0 (0%)	104 (50%)	0 (0%)	80 (38%)
23	Co-ordinating/ submit bids	5 (3%)	0 (0%)	2 (1%)	0 (0%)	0 (0%)	55 (35%)	0 (0%)	97 (61%)
24	Giving personnel advice	4 (3%)	1 (<1%)	0 (0%)	0 (0%)	0 (0%)	49 (39%)	0 (0%)	71 (57%)
25	Managing pupil data	19 (7%)	1 (<1%)	5 (2%)	0 (0%)	0 (0%)	184 (67%)	0 (0%)	65 (24%)
26	Inputting pupil data	56 (17%)	0 (0%)	8 (2%)	0 (0%)	0 (0%)	229 (69%)	0 (0%)	37 (11%)

Appendix 2a - Impact of support staff on teacher workloads by country and school phase

Group	Wave	Decrease	No Change	Increase
All staff	Wave 1	1791 (57%)	1000 (32%)	362 (12%)
	Wave 2	*1261 (52%)*	*915 (38%)*	*243 (10%)*
	Wave 3	947 (53%)	634 (36%)	206 (12%)
England	Wave 1	1561 (57%)	850 (31%)	326 (12%)
	Wave 2	*1096 (52%)*	*801 (38%)*	*225 (11%)*
	Wave 3	829 (54%)	538 (35%)	178 (12%)
Wales	Wave 1	216 (56%)	137 (36%)	32 (8%)
	Wave 2	*159 (55%)*	*114 (39%)*	*18 (6%)*
	Wave 3	118 (49%)	96 (40%)	28 (12%)
Primary	Wave 1	1134 (58%)	598 (31%)	231 (12%)
	Wave 2	*819 (54%)*	*560 (37%)*	*146 (10%)*
	Wave 3	605 (53%)	370 (33%)	133 (12%)
Secondary	Wave 1	441 (56%)	261 (33%)	83 (11%)
	Wave 2	*244 (48%)*	*217 (42%)*	*53 (10%)*
	Wave 3	202 (52%)	140 (36%)	46 (12%)
Special	Wave 1	202 (54%)	128 (34%)	44 (12%)
	Wave 2	*192 (51%)*	*138 (37%)*	*44 (12%)*
	Wave 3	140 (48%)	124 (43%)	27 (9%)

Appendix 2b - Impact of support staff on teacher workloads by support staff category

Group	Wave	Decrease	No Change	Increase
TA equivalent	Wave 1	979 (57%)	503 (29%)	239 (14%)
	Wave 2	*435 (53%)*	*282 (35%)*	*100 (12%)*
	Wave 3	598 (58%)	291 (28%)	137 (13%)
Pupil Welfare	Wave 1	24 (46%)	21 (40%)	7 (14%)
	Wave 2	*30 (37%)*	*44 (54%)*	*8 (10%)*
	Wave 3	27 (34%)	45 (56%)	8 (10%)
Technicians	Wave 1	117 (62%)	82 (29%)	26 (9%)
	Wave 2	*129 (54%)*	*91 (38%)*	*18 (8%)*
	Wave 3	27 (34%)	45 (56%)	8 (10%)
Other Pupil Support	Wave 1	32 (27%)	65 (55%)	22 (19%)
	Wave 2	*384 (53%)*	*254 (35%)*	*89 (12%)*
	Wave 3	29 (21%)	89 (64%)	21 (15%)
Facilities	Wave 1	15 (19%)	61 (76%)	4 (5%)
	Wave 2	*5 (16%)*	*24 (77%)*	*2 (7%)*
	Wave 3	29 (21%)	89 (64%)	21 (15%)
Administrative	Wave 1	323 (70%)	115 (25%)	17 (5%)
	Wave 2	*216 (65%)*	*99 (30%)*	*17 (5%)*
	Wave 3	151 (70%)	47 (22%)	19 (9%)
Site	Wave 1	36 (27%)	87 (64%)	13 (10%)
	Wave 2	*33 (22%)*	*110 (74%)*	*6 (4%)*
	Wave 3	18 (21%)	63 (73%)	5 (6%)

Appendix 3a - Impact of support staff on teacher job satisfaction by country and school phase

Group	Wave	Decrease	No Change	Increase
All staff	Wave 1	213 (7%)	814 (25%)	2192(68%)
	Wave 2	*123 (5%)*	*721 (30%)*	*1580 (65%)*
	Wave 3	124 (7%)	494 (28%)	1180 (66%)
England	Wave 1	189 (7%)	680 (24%)	1932(69%)
	Wave 2	*113 (5%)*	*630 (30%)*	*1387 (65%)*
	Wave 3	108 (7%)	415 (27%)	1030 (66%)
Wales	Wave 1	20 (5%)	124 (32%)	242 (63%)
	Wave 2	*10 (3%)*	*91 (32%)*	*187 (65%)*
	Wave 3	16 (7%)	79 (32%)	150 (61%)
Primary	Wave 1	114 (6%)	516 (26%)	1380(69%)
	Wave 2	*65 (4%)*	*496 (33%)*	*962 (63%)*
	Wave 3	63 (6%)	304 (27%)	747 (67%)
Secondary	Wave 1	67 (8%)	205 (26%)	523 (66%)
	Wave 2	*29 (6%)*	*139 (27%)*	*352 (68%)*
	Wave 3	36 (9%)	109 (28%)	248 (63%)
Special	Wave 1	28 (7%)	83 (22%)	271 (71%)
	Wave 2	*29 (8%)*	*86 (23%)*	*260 (69%)*
	Wave 3	25 (9%)	81 (28%)	185 (64%)

Appendix 3b - Impact of support staff on teacher job satisfaction by support staff category

Group	Wave	Decrease	No Change	Increase
TA equivalent	Wave 1	113 (6%)	273 (15%)	1389(78%)
	Wave 2	*47 (6%)*	*168 (20%)*	*605 (74%)*
	Wave 3	67 (7%)	170 (16%)	797 (77%)
Pupil Welfare	Wave 1	5 (10%)	15 (29%)	32 (61%)
	Wave 2	*6 (7%)*	*32 (38%)*	*46 (55%)*
	Wave 3	8 (10%)	24 (30%)	49 (61%)
Technicians	Wave 1	21 (7%)	67 (23%)	200 (69%)
	Wave 2	*18 (8%)*	*58 (24%)*	*164 (68%)*
	Wave 3	16 (8%)	56 (29%)	210 (63%)
Other Pupil Support	Wave 1	7 (6%)	66 (55%)	47 (39%)
	Wave 2	*32 (4%)*	*190 (26%)*	*503 (69%)*
	Wave 3	12 (9%)	74 (54%)	52 (38%)
Facilities	Wave 1	2 (3%)	48 (61%)	29 (37%)
	Wave 2	*2 (7%)*	*18 (60%)*	*10 (33%)*
	Wave 3	0 (0%)	16 (59%)	11 (41%)
Administrative	Wave 1	28 (6%)	185 (40%)	249 (54%)
	Wave 2	*13 (4%)*	*162 (49%)*	*154 (47%)*
	Wave 3	15 (7%)	95 (44%)	108 (50%)
Site	Wave 1	11 (8%)	71 (52%)	55 (40%)
	Wave 2	*4 (3%)*	*83 (55%)*	*63 (42%)*
	Wave 3	6 (7%)	50 (58%)	30 (35%)

Appendix 4a - Impact of support staff on teacher stress by country and school phase

Group	Wave	Decrease	No Change	Increase
All staff	Wave 1	2131 (66%)	857 (27%)	231 (7%)
	Wave 2	*1500 (62%)*	*725 (30%)*	*200 (8%)*
	Wave 3	1165 (65%)	487 (27%)	141 (8%)
England	Wave 1	1877 (67%)	714 (26%)	209 (8%)
	Wave 2	*1321 (62%)*	*629 (30%)*	*179 (8%)*
	Wave 3	1017 (66%)	410 (27%)	122 (8%)
Wales	Wave 1	239 (62%)	129 (33%)	19 (5%)
	Wave 2	*176 (61%)*	*94 (32%)*	*20 (7%)*
	Wave 3	148 (61%)	77 (32%)	19 (8%)
Primary	Wave 1	1328 (66%)	545 (27%)	138 (7%)
	Wave 2	*920 (60%)*	*493 (32%)*	*113 (7%)*
	Wave 3	717 (65%)	310 (28%)	84 (8%)
Secondary	Wave 1	543 (68%)	196 (25%)	58 (7%)
	Wave 2	*341 (66%)*	*136 (26%)*	*42 (8%)*
	Wave 3	264 (67%)	98 (25%)	31 (8%)
Special	Wave 1	245 (65%)	102 (27%)	32 (8%)
	Wave 2	*920 (60%)*	*493 (32%)*	*113 (7%)*
	Wave 3	184 (64%)	79 (27%)	26 (9%)

Appendix 4b - Impact of support staff on teacher stress by support staff category

Group	Wave	Decrease	No Change	Increase
TA equivalent	Wave 1	1276 (72%)	368 (21%)	129 (7%)
	Wave 2	*554 (67%)*	*191 (23%)*	*77 (9%)*
	Wave 3	732 (71%)	213 (21%)	84 (8%)
Pupil Welfare	Wave 1	33 (63%)	17 (33%)	2 (4%)
	Wave 2	*40 (48%)*	*40 (48%)*	*4 (5%)*
	Wave 3	55 (68%)	21 (26%)	5 (6%)
Technicians	Wave 1	204 (71%)	60 (21%)	23 (8%)
	Wave 2	*164 (69%)*	*58 (24%)*	*17 (7%)*
	Wave 3	134 (70%)	46 (24%)	12 (6%)
Other Pupil Support	Wave 1	47 (39%)	58 (49%)	14 (12%)
	Wave 2	*461 (64%)*	*195 (27%)*	*69 (9%)*
	Wave 3	58 (41%)	66 (47%)	16 (11%)
Facilities	Wave 1	20 (25%)	51 (65%)	8 (10%)
	Wave 2	*10 (33%)*	*17 (57%)*	*3 (10%)*
	Wave 3	9 (35%)	17 (65%)	0 (0%)
Administrative	Wave 1	289 (62%)	147 (32%)	27 (6%)
	Wave 2	*188 (57%)*	*123 (37%)*	*19 (6%)*
	Wave 3	132 (61%)	71 (33%)	15 (7%)
Site	Wave 1	54 (39%)	74 (54%)	10 (7%)
	Wave 2	*53 (35%)*	*90 (60%)*	*7 (5%)*
	Wave 3	33 (39%)	47 (55%)	5 (6%)

Appendix 5 - Coding framework and definitions of categories

Coding Framework	Definitions
1. Talk level codes	Talk level codes were used to identify aspects of talk which could be coded into one of the categories below. The codes were used at the specific talk (utterance) level rather than the lesson level.
A. Task / content talk	Task / content talk was talk related to the content of the lesson or was about the task
1. Organisation	Organisation was talk related to ways in which the adult organised aspects of the lesson to facilitate learning.
a. Organisation of pupils	Talk was related to organising pupils in preparation for the lesson or task. It could also relate to organisation of pupils during and at the end of a lesson. Organisation could be effective or ineffective. Directions (rather than learning instructions) were placed in this category.
b. Organisation of materials	Talk was related to organising materials for the lesson or task so pupils could successfully complete what was required. Materials could also be organised during the lesson or towards the end of a lesson. Such talk may be effective or ineffective.
2. Language use: concepts	Concepts were defined as the ideas/ concepts that were central to the lesson. They were what pupils were expected to learn in the lesson. Talk could be helpful or unhelpful to student learning.
a. Explanation of concept	Talk involved explaining an idea or a concept to a pupil or the class. The explanation could relate to the concept currently being taught but could also be a re-explanation of a concept pupils had previously been taught, or a re-explanation of the concept currently being taught in the lesson. Explanations could be accurate or inaccurate.
b. Statements as prompts	Talk was designed to promote student thinking, generally without providing pupils with an answer / response. Prompts could encourage student independence. Prompts could also provide the student with the answer or provide so much information that student thinking was not promoted. Hence prompts could be useful for student learning but could also be considered over-prompting to the extent that little thought was asked of the student and certainly not deeper thought that required the student to make links with earlier learning.

Appendix 5 (continued) - Coding framework and definitions of categories

3. Language use: questions	Questions are designed to encourage student thinking as well as to check on student understanding.
a. Types of questions	Questions could be open or closed. They could be designed to promote pupils thinking but could also be used to check on student understanding. They could be useful in promoting thinking but could also be unhelpful for pupils. Questions could be in the form of a prompt designed to stimulate student thinking. Question prompts could be useful to promote student thinking and independence but could also provide the student with the correct answer to a problem, rather than requiring student thought.
b. Response to student answers	This talk related to how the adult responded to a student answer which was either correct or incorrect. It did not include feedback, i.e. praise, criticism, which was coded separately. Responses to student answers frequently involved repetition of a student answer or led to further questioning.
4. Feedback	Feedback was information the adult provided the pupil(s) that was about their learning or was about their attempt at a task.
a. Feedback is about learning / task completion	Feedback was focused on student learning. It provided information related to the progress the pupil was making on learning and could provide feed-forward information, i.e. what the pupil needs to learn next.
b. Use of praise / rewards / criticism	Feedback was related to student effort but was not related to learning. It could be delivered in the form of praising the student with no explanation of what the praise was for; similarly it could be a criticism of the pupil or of his/her attempt.
5. Behaviour management	Behaviour management talk related to the ways in which the adult attempted to manage student behaviour. It focused on student behaviour and did not relate to the task.
a. Preventive: positive / negative	Preventive statements were designed to prevent poor behaviour. They could be phrased positively in terms of, for example, focusing on pupils doing the right thing. Preventive statements could also be phrased negatively and would often be expressed in the form a threat.
b. Reactive: positive / negative	Reactive statements were those that were in response to inappropriate student behaviour. They could be phrased in terms of a statement that clearly stated what was required. They could also be phrased in the form of a request rather than a demand and hence a weak statement. Reactive statements could be phrased either positively or negatively. With a positive statement the adult was likely to focus on pupils doing the right thing and ignore the 'transgressor(s)'. When the statement was negative it was likely to be centred on the transgressor(s).

Appendix 5 (continued) - Coding framework and definitions of categories

B. Lesson purpose talk	Lesson purpose talk was that which related to the purpose of the lesson, i.e. what the pupils would learn from the lesson.
6. Orientation	The beginning of a lesson is important as it focuses student attention on the concepts being taught and is aimed at cognitively engaging pupils in their learning. However orientation can also come during the lesson when the adult is orienting the student back to the primary concept being taught in the lesson.
a. Introduction to lesson objective / focus	Mostly this category of talk was found at the beginning of a lesson where the adult highlighted what pupils would learn in the particular lesson. However, this type of talk could also occur later on when the adult re-focused pupils on what was being taught or introduced a new concept.
b. Links to previous/ future lesson / prior knowledge	For this type of talk the adult made reference to concepts taught the previous day or at a previous time. The aim was to focus pupils on the learning for that lesson by triggering their prior knowledge; this provided a platform for new learning to occur. The adult could also highlight the next steps in the learning, i.e. what pupils may learn in the future or the purpose of learning a particular concept.
7. Promoting engagement/ motivation	Talk in this category was designed to enhance student focus and attention. It provided motivation for the learning and could relate to cognitive engagement or the task at hand.
a. Cognitive focus	Talk was focused on student thinking. It was designed to cognitively engage pupils, to promote their thinking. Questions specifically designed to enhance cognitive engagement were coded in this category.
b. Task focus	Talk was designed to enhance student engagement but was focused on the task rather than on student thinking. Talk that was off-task was also included in this category. Such talk detracted from the task focus. At times a clear time frame for completion of work was provided in order to enhance student engagement with the task.
2. Lesson level codes	Lesson level codes provided a summary of each lesson.
C. Lesson Talk	
8. Structure of the lesson	A summary of the lesson structure, i.e. the composition of the lesson.
a. Lesson is planned	A comment on whether the lesson appeared to be planned by the adult, i.e. there was clear, cohesive structure to the lesson.
b. Motivation is task / behaviour focused	A comment on the extent to which the adult talk was focused on learning or was focused on task completion and behaviour.

Appendix 5 (continued) - Coding framework and definitions of categories

9. Style of delivery	This section related to the ways in which the lesson was delivered and whether or not the delivery was effective in terms of student learning.
a. Type of language used: formal / informal	A comment on whether or not the language used was formal and business-like or whether it was more conversational and at a more personal level.
b. Subject / task knowledge	A comment on the accuracy of the information the adult provided to the pupils.
c. Focus: task completion/ understanding concepts	A comment on whether the adult focused on developing student learning and thinking or whether the focus appeared to be on completing tasks; about doing rather than thinking.
d. Cohesion of explanations	A comment on whether or not explanations appeared to be planned in that they were delivered clearly and cohesively.
e. Cohesion of questions	A comment on whether questioning was clear and to what extent questioning promoted student involvement in the lesson and student thinking.
f. Cohesion of organisational statements and demands	A comment on whether organisational statements appeared clear to pupils and on placement of organisational statements within the lesson.
g. Effectiveness of orientation in focusing pupils on learning	A comment on how effectively the adult focused pupils on the learning for the lesson. Usefulness of links made to prior knowledge.
h. Effectiveness of engagement / motivation in promoting student learning	A comment on whether the adult's focus appeared to be on promoting cognitive engagement of pupils or whether it related to completion of tasks. There could also be a comment related to the extent to which the adult remained on-task throughout the lesson.
i. Effectiveness of feedback in promoting student learning	A comment on the extent to which the adult endeavoured to promote learning through effective feedback. The extent to which praise and criticism were used without any learning-related feedback.

Appendix 5 (continued) - Coding framework and definitions of categories

j. Effectiveness of behaviour management statements	A comment on the clarity and effectiveness of behaviour management. A comment on the use of assertive statements or weak requests to manage behaviour.	
k. Talk is planned	Talk was structured in such a way that it appeared to have been planned. The adult appeared authoritative and in control.	
D. Relationships		
10. Adult role		
a. Pro-active/ reactive	A comment on the extent to which the adult appeared to take a leading role in the classroom or the adult appeared to react to what was happening.	
b. Public / private	A comment on the extent to which the adult spoke to pupils publicly or privately.	
11. Relationships with pupils		
a. Formal/informal	A comment on the extent to which the adult had a formal, business relationship with pupils. This could be a warm relationship with pupils as evidenced by occasional endearments and supportive statements. The adult could also interact with the pupils in a friendly (perhaps over-friendly) manner and engage in personal talk with pupils. Informal talk could include the use of many endearments.	
12. Role of pupils	This section provided a summary related to the primary pupil roles in the lesson.	
a. Active/Passive	The pupils could be actively engaged in the lesson and in learning; they were required to interact and participate in the lesson. The pupils could be passive recipients of information and simply react to demands by the adult. In this instance they may not be required to cognitively engage independently.	
b. Attitude to adults	A comment about the extent to which the pupils appeared to respect the adult they were working with; style of interactions; types of interactions.	

Appendix 6 - Possible explanations for findings on pupil academic progress

As explained in Section 6.9, perhaps the most obvious explanation for the relationship between the amount of support and pupil progress is that it is attributable to the pupil rather than the support they receive; that is, pupils are likely to receive support because they are performing less well or have a particular learning or behavioural problem, and it is this that explains the relationship between support and attainment. The extra support therefore reflects the underlying correlation between pupil characteristics and progress, but does not itself affect progress. This was expected, as both the case studies and questionnaires have previously indicated that the allocation of support is not at random but usually on the basis of how well the pupil is doing academically or because they have an SEN. However, it is unlikely that this explanation fully accounts for the relationship between support and pupil attainment because the pupil characteristics that are likely to be the basis for the provision of extra support were included in the statistical analysis. The following variables were included: prior attainment (collected at the beginning of the year) attainment, SEN status (statemented, School Action, School Action Plus), gender, pupil family income (indexed by eligibility for free school meals), income deprivation, ethnic group, pupil age, and English as an additional language (EAL), We therefore examined the *independent* effect of additional support over and above these child characteristics.

A more formal way of expressing the view that characteristics of the pupils drive the relationship between support and outcomes would be to suggest that there is 'endogeneity' in the statistical model. This would occur if there was another factor or factors, which we have not been able to capture numerically, which might be related to both the allocation of support and attainment progress, and which therefore bias the relationship between the level of support and progress in attainment. It might be argued that teachers experience a pupil on an everyday basis and gain a more rounded picture of a pupil beyond the eight variables cited above. These extra factors could include pupil behaviour and attitudes, parental support or attitudes, or family cohesion as seen through, e.g., eating meals together. Perhaps these extra characteristics influence progress?

However, it is important to realise that in order to explain the relationship between support and attainment these additional characteristics would need to be related not only to progress but also to extra support; they would need, therefore, to inform the decision to give additional support and this would need to be over and above anything captured by the eight included measures. As part of the systematic observation study, SENCOs and teachers filled in a form asking them to indicate the main reason for support. The responses suggested that almost always this was due to learning difficulties, problems with literacy or numeracy, low attainment or SEN status, which would have been captured in the variables included in the statistical analysis. The case studies backed up this point of view, and also suggested that in a large number of cases support was allocated by the school rather than individual teachers. Though possibly connected to progress, it is difficult to see how extra information on pupils will be connected to support beyond that allocated to a pupil because they are experiencing difficulties with learning. Though the importance of unmeasured variables cannot be ruled out it is unlikely that any unmeasured factors are biasing the relationship between the level of support and progress in attainment.

Another potential limitation of the study is that the measures of SEN status (statemented, School Action and School Action Plus) were relatively strict and might have excluded some pupils who had behavioural or learning difficulties, for which they were assigned extra support, not revealed in these categories. As said above, one way to approach this possibility was to ask for staff to identify all the pupils who were allocated support (and why - see above) and then see if the results on the relationship between support and academic progress still held. The resulting list of

pupils was a little more extensive than those identified as having SEN or on School Action or School Action Plus and for the purposes of analysis these extra pupils (there were 50 such pupils across the four age groups) were grouped with the SEN group. But even when the analysis was redone with this larger group replacing the SEN group (i.e., those with SEN and those with additional support not classified as SEN), the relationship between support and attainment was very largely unchanged. The results therefore suggest that the negative effect of support cannot easily be explained by the fact that there are pupils over and above those we have previously identified as making less progress (especially those with SEN) who were picked out for extra support for a particular reason related to their likely progress.

Another feature of the analysis was that the measure of SEN used in the analysis was rather broad. It might be best to distinguish between different forms of SEN but small numbers in sub-categories made this type of analysis potentially unreliable. It might be added, however, that negative effects were observed for pupils both with and without SEN (though in some cases more marked for pupils with SEN), and so differences in effects between levels of SEN will not fully account for the results.

Another approach to the possibility that it is pupil characteristics which account for the relationship between support and progress is to see whether the relationship holds for other pupil outcomes. The results of the analyses examining the effect of support upon the Positive Approaches to Learning (PAL) generally showed no effect of support on these measures over the year, and in some cases there was a positive effect of support. If there were underlying constructs which were somehow biasing the results in the direction of less progress for the most supported pupils, then it would be expected that the PAL results would mirror those of the attainment outcomes. The fact that this was not the case, gives further validity to the attainment results.

One last way of viewing the relationship between support and attainment, couched in terms of pupil characteristics, might be that a pupil's difficulties begin in a school year and slow up progress, for reasons we do not know, and which were not shown in previous years (they would then have been picked up in the other measures included), and extra support is then allocated to such pupils. In the study the main measure of support used was an estimate over the school year, but it might be argued that this would miss effects revealed by a change in support over the year, e.g., as staff came to feel a pupil needed more support. But even this does not seem to explain the results. Further statistical analyses, presented in the results section, showed that the introduction of a measure of change in support over the year did not affect the relationship between support received and progress over the year. Moreover, the DISS Strand 2 Wave 1 case studies and the CSPAR study (Blatchford et al., 2004) indicate that change in support over the year tends not to happen with any frequency. This is because resources are rarely available to give to previously untargeted pupils, i.e., there is little spare support staff capacity. In order to explain the negative effect, this mid-year change of support would also need to be happening in a systematic way across all years and school subjects. It also needs to be remembered that for a number of analyses conducted, the effect is not restricted to pupils in need.

The longitudinal design adopted here has therefore gone a long way with a naturalistic, non-experimental design to establish grounds for the effect of the amount of support on pupil attainment. We have seen that it is possible that there is other information about pupils, used by teachers and schools, which is not captured by the variables listed above, and which explains the systemic relationship between support and attainment, but, as we have said, it is very difficult to think of what these might be.

It might be added that the possible explanation of effects in terms of an unobserved or unmeasured variable is an issue for any naturalistic, non experimental study, and, as such, most educational research. Without performing a study where pupils are randomly allocated to support levels, such possibilities are always present (though experimental studies also have intrinsic limitations, e.g., because they do not reflect conditions that normally operate in schools).

Appendix 7 - References

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