

# The impact of adult support staff on pupils and mainstream schools

Review conducted by the Educational Support and Inclusion Group

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Technical report written by Alison Alborz, Diana Pearson, Peter Farrell and Andy Howes

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The results of this systematic review are available in four formats:

**SUMMARY**

Explains the purpose of the review and the main messages from the research evidence

**REPORT**

Describes the background and the findings of the review(s) but without full technical details of the methods used

**TECHNICAL  
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Includes the background, main findings, and full technical details of the review

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## **List of abbreviations**

DCSF	Department for Children, Schools and Families
DfES	Department for Education and Skills
EBD	Emotional / behavioural disorder
HLTA	Higher level teaching assistant
LA	Local Authority
LSA	Learning Support Assistant
ONS	Office for National Statistics
PLI	Primary language impairment
PMLD	Profound and multiple learning difficulties
SEN	Special Educational Needs
SENCO	Special Educational Needs Co-ordinator
SENDA	Special Educational Needs and Disability Act
SLD	Severe learning difficulties
TA	Teaching Assistant
WoE	Weight of Evidence

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# Abstract

## What do we want to know?

What is the impact of adult support staff on the participation and learning of pupils and on mainstream schools? What are the support processes that lead to these outcomes?

## Who wants to know and why?

This information is helpful for the government and local authorities, to assess whether the employment of greater numbers of support staff has been worthwhile. It is also of benefit to school leadership and teachers, providing information on the types of positive impacts support staff have and how these are achieved. Other people interested in improving the quality of education for all children will also be interested in the impact of support staff.

## What did we find?

**Pupils:** Literature suggests that trained and supported teaching assistants (TAs) can have a positive impact on the progress of individual or small groups of children, in the development of basic literacy skills. In addition, 'sensitive' TA support can facilitate pupil engagement in learning and social activities, with the class teacher and their peers; that is, sensitive TA support can both facilitate interaction, and also reflect an awareness of times when pupils need to undertake self-directed choices and actions. Evidence suggests that TAs can promote social and emotional adjustment in social situations, but that they are not very successful in undertaking therapeutic tasks aimed at supporting children with emotional and behavioural problems.

**Schools:** Use of TA support allows teachers to engage pupils in more creative and practical activities and to spend more time working with small groups or individuals. Class-related workload is somewhat reduced when working with a TA, but

the teacher role may become more managerial as this workload may increase. An adult presence in classroom makes teachers feel supported and less stressed. The knowledge that pupils were receiving improved levels of attention and support was also reported to enhance job satisfaction for teachers. 'Team' teaching styles, involving TAs and work with small groups, can promote learning support as a routine activity and part of an 'inclusive' environment in which all children are supported. TAs can act as an intermediary between teachers and parents, encouraging parental contacts, but care is required to ensure that appropriate contacts with the teacher are maintained.

## What are the implications?

The review suggests the deployment of the TA workforce has been successful in providing support for teachers on a number of levels and in delivering benefits to pupils. To enhance these impacts, it is necessary to ensure effective management and support for TAs, including effective training and clear career structure. Collaborative working is required if TA support is to be employed to its best effect. Teachers therefore need to be trained in these approaches and the ongoing effect of this emphasis needs to be monitored in professional standards for teachers.

Progress was more marked when TAs supported pupils in discrete well defined areas of work or learning. Findings suggest that support to individual pupils should be combined with supported group work that facilitates all pupils' participation in class activities. The importance of allocated time for teachers and TAs to plan programmes of work was apparent. Support, embedded as 'standard' school practice, with the type and extent of support provided planned on an individual basis, has implications for the destigmatisation of supported pupils.

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### **How did we get these results?**

The systematic review identified 232 studies, of which 35 were selected for in-depth review.

### **Where to find further information**

<http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=2438>

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## CHAPTER ONE

# Background

This section of the report outlines the origins of the review emphasising its importance in relation to the developing school workforce and recent policy changes that are reflected in these developments. It also discusses the conceptualisation of the review and describes the definitions used in searching for, and reviewing, the literature.

### 1.1 Aims and rationale for current review

For some years, the issue of how to provide cost-effective support to teachers and pupils in schools has exercised the minds of government ministers, local authority staff, teachers, parents, pupils and researchers. The first EPPI-Centre review on the impact of paid adult support staff on the participation and learning of pupils in mainstream schools was completed by the Educational Support and Inclusion Group, at Manchester University in 2003 (Howes *et al.*, 2003). Since this original review was published, the National Agreement (*Raising Standards and Tackling Workload*, DfES 2003) has come into force, and the numbers of adults working in schools has increased substantially (DfES and ONS, 2005). The original review, therefore, considered data collected before the main thrust of workforce changes came into effect and any subsequent research into its impact on pupils and schools.

In addition, the original review was restricted to the impact of paid adult support staff on participation and learning. However, the presence of such staff has arguably had a wider effect, and has impacted on teaching approaches and teachers, as well as on organisational and managerial issues. The original review, therefore, needed to be updated to take account of research on the impact of support staff on the wider school setting. Hence, in addition to updating the previous review in relation to the impact of TAs on pupil learning and participation, this review considers all relevant research on their wider impact, some of which preceded 2002, the cut-off date of the first review.

### 1.2 Policy and practice background

This review builds on the earlier review which was conducted by two members of the present team (Dr A Howes and Professor P Farrell). The rationale for this 'original' review was devised by combining input from research teams at both Manchester University (as above) and Newcastle University (Alan Dyson and Barbara Roberts). It also incorporated views from a wide range of relevant stakeholders provided through review and advisory groups. The current review updated the original synthesis and expanded its remit, as described below, in line with discussions held at the offices of the Department for Children, Schools and Families (DCSF) with representatives from the DCSF Policy (Dominic Mahon and James Rushbrooke) and Strategic Analysis (Stephen Witt and Deborah Wilson) Groups, and members of the EPPI-Centre (Mark Newman and David Gough) in March 2008.

#### 1.2.1 Policy directions

In the past 15 years, there has been a rapid growth in the numbers of teaching assistants (TAs) working in mainstream schools in the UK. Figures suggest that initially the increase was due to the rise in the numbers of pupils with special needs statements being educated in mainstream settings. The 1997 Green Paper, *Excellence for All Children: Meeting Special Educational Needs* (DfES, 1997), suggested that there were 24,000 fulltime equivalent TAs working in mainstream schools and that this number was expected to grow. Indeed, the rise in the numbers of TAs working in mainstream schools mirrored schools' and LAs' growing commitment towards inclusion. Building on these developments, the subsequent Green Paper, *Teachers Meeting the*

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*Challenge of Change* (DfES, 1998), referred to the projected increase of 20,000 in the numbers of classroom assistants who would provide general support in mainstream schools: that is, not restricted solely to pupils with special educational needs. In addition, the Green Paper referred to the need to recruit and train 2,000 'literacy assistants' to help in the implementation of the Government's literacy strategy. In 2000, the Centre for Studies on Inclusive Education (CSIE, 2000) estimated that there were as many as 80,000 TAs working in mainstream schools. This was followed by a Government consultation paper on the role of school support staff (DfES, 2002) which indicated that there were over 100,000 TAs working in schools; this represented an increase of over 50 percent since 1997. The subsequent years have seen the continued expansion in the numbers of TAs with recent figures indicating that there are now 176,900 support staff in schools, the vast majority of whom, according to Blatchford *et al.* (2008) are TAs.

Traditionally the work of TAs has almost exclusively been associated with supporting the education of children in special schools. In the 1990s, however, they began to play a role in supporting mainstream placements for pupils with statements of special needs. In the last 10 years, their increasing contribution towards assisting in the education of all pupils has been recognised. These developments have posed many challenges for the TAs themselves and for those involved in employing, managing, supporting and training them. In particular, senior staff in schools and local authorities (LAs) are now required to plan induction training for TAs, to support their continuing professional development, to prepare and review job descriptions, and to deploy them in schools so that they can work effectively with, and alongside, their teacher colleagues.

For some years, the Government has explicitly recognised the valuable and supportive role that TAs can play. At the turn of the century, they published the Good Practice Guide (DfES, 2000a), a consultation document (DfES, 2002), and two sets of induction training materials for newly appointed TAs in primary and secondary schools (DfES, 2000b; 2001). In addition, they supported the work of the Local Government National Training Organisation (LGNTO) which has devised a set of occupational standards for TAs (LGNTO, 2001). Such documents recognised the increasingly valuable and supportive role that teaching assistants (TAs) can have in mainstream schools. Indeed, this guide referred to the most recent reports by Her Majesty's Inspectorate (HMI) that have 'confirmed the tremendous contribution that well trained and well managed teaching assistants (TAs) can make in driving standards up in schools'. A further HMI report (Ofsted, 2002) suggested that the quality of teaching in lessons where TAs were present is better than in lessons without them. This evidence supports the view that TAs can

help the government to achieve its objectives of raising standards for all pupils within an inclusive framework. This was strongly endorsed by the Government's consultation paper on the work of school support staff (DfES, 2002).

These reports provided a further impetus for an increase in the number of support staff through the introduction of the Workforce Remodelling initiative which aims to focus teacher time more clearly on teaching and learning, with other staff taking on a wide range of supporting roles.

In January 2003, the Government, employers and the majority of the school workforce unions (all except the NUT) signed a National Agreement, *Raising Standards and Tackling Workload*. This set out proposals for the following:

- a series of changes to teachers contracts designed to ensure that teachers spent their time on tasks that needed the professional skills or judgement of a teacher
- a reform of support staff roles
- a concerted attack on bureaucracy

These proposals were underpinned by a change management programme for schools and driven by a steering group, comprising signatories to the National Agreement.

The contractual changes were implemented in three phases, by amending the School Teachers' Pay and Conditions Document as follows:

##### *September 2003*

Teachers can no longer be required routinely to undertake administrative and clerical tasks.

Teachers' work-life balance has to be taken into account.

Teachers with leadership and management responsibilities have a right to time in which to carry out their duties.

##### *September 2004*

An annual limit on the amount of cover for absent colleagues that teachers can carry out was introduced (38 hours a year).

##### *September 2005*

All teachers are entitled to guaranteed time for planning, preparation and assessment (PPA).

Headteachers are entitled to Dedicated Headship Time.

Teachers can no longer be required to invigilate for external examinations.

As a result of the National Agreement, new support staff roles have been developed. These include roles such as cover supervisors, who supervise classes during short-term teacher absences, and higher level teaching assistants (HLTAs) who are able to lead learning with whole classes. Regulations were introduced which allowed support staff to undertake 'specified work' in certain circumstances. Support staff increasingly take on a range of roles outside the classroom that were previously done by teachers, such as exam officers, bursars, attendance and behaviour managers, midday supervisors and a variety of pastoral roles.

Finally, the Every Child Matters and Extended Schools agendas have brought a wide variety of new adults into schools. Some of these, although based in schools, may be employed by other agencies, such as social workers, police and probation officers. Others, such as school nurses, may be employed directly by the school itself.

### 1.2.2 Practice issues

School support staff potentially impact on both the pupils they are targeting and school functioning more generally. In this review, the impact of general and targeted adult support on pupil outcomes is understood as part of a wider question about how the participation and learning of all pupils can be promoted and the impact this might have on teachers and teaching. Schools are encouraged, through a variety of schemes, including reductions in special school placements and disciplinary exclusions, to educate a wider range of pupils. The employment of TAs has been an attractive response to these initiatives, because it is largely within the control of the school management and avoids an increase in teacher workload. However, the previous EPPI-Centre review (Howes *et al.*, 2003) and other literature (see for example, Giangreco and Doyle, 2007; Giangreco *et al.*, 2005) suggests that this support is not always given to pupils in such a way that, as a result, they are more included in the school. Indeed, there is a potential tension between the impact of TA support on supporting individual learning and the impact on participation with peers: for example, with the practice of withdrawal from mainstream classrooms (Farrell, 2000; Fox *et al.*, 2004). Therefore, although TA support is a widely accepted response to the inclusion of children with special educational needs in mainstream schools, the way this is organised is crucial to whether children participate effectively in the classroom and school.

There are also questions about whether the presence of TAs to support pupils has had the desired impact on all pupils' academic attainments, including those with SEN. For, although there are many reports on the work of TAs (e.g. Lee, 2002; Neil, 2002; Butt and Lance, 2005; Gerschell, 2005), almost all of which express positive views about their impact on pupils' learning, there are a

number of practical issues concerning the training and support that TAs which need to be addressed in order to ensure that pupils do benefit. As Farrell *et al.* (1999) pointed out 10 years ago, simply placing a TA, who may be untrained and with little or no experience of working with children who have SEN, next to a child with disabilities will not necessarily result in a successful learning experience for the child.

## 1.3 Research background

At the time of the first EPPI-centre review on the impact of paid adult support staff, the rise in the number of TAs working in schools had been seen as a positive development, despite the concerns expressed by some teachers' unions. Indeed, a number of publications had reported on the benefits that TAs could bring to schools (for example, Balshaw and Farrell, 2002; Farrell *et al.*, 1999; Lee and Mawson, 1998; Mencap, 1999; National Union of Teachers, 2002; Smith *et al.*, 1999). Furthermore several books and journal articles had reported on the developing work of TAs (for example, CSIE, 2000; Jerwood, 1999; Rose, 2000; Thomas *et al.*, 1998). There were also a number of books that were devoted exclusively to ways in which teachers and assistants could work together to support pupils. Of these, perhaps those written by Balshaw (1999), Lorenz (1998) and Fox (1993, 1998) had the most impact. There had also been several reviews of literature on the role and impact of paid adult support. Clayton (1993) provided a useful historical overview of a changing role over 25 years, from 'one of care and housekeeping to now include substantial involvement in the learning process itself'. The General Teaching Council had carried out a selective literature review on TAs (GTC, 2002) which included two studies of impact. This brought together a useful range of studies on other related topics, highlighting, for example, the demographics of the TA workforce in the UK (predominantly white, female and aged between 31 and 50 years) and the general level of job satisfaction and motivation of TAs which is consistently reported.

Since the first review, there have been other numerous additional publications on the various aspects of the work of TA both in the UK and overseas (for example, Mistry *et al.*, 2004; Werts *et al.*, 2004; Wilson *et al.*, 2003). Furthermore the work of teaching assistants in relation to promoting inclusive practice permeates the chapters of two recent books on inclusion and special education (Florian, 2007; Ainscow *et al.*, 2006). The assumption underlying the rapid rise in the numbers of TAs is that that TAs can help to raise standards in schools. And indeed, although HMI reports and other publications refer to the vitally important role of TAs and other support staff, at the time of the original review, Giangreco *et al.* (2001a) pointed out that there had been no systematic review of international literature that had focused on the key question of whether

the presence of support staff in classrooms had an impact on raising standards. More recently, Giangrecco and Doyle (2007) review their concerns about the failure of TAs support to bring about improved learning and participation reflecting the need for further systematic reviews of the literature in this area. To quote Blatchford *et al.* (2008) ‘the general view in schools was that support staff did have an impact on pupil attainment, behaviour and attitudes; the problem headteachers faced was proving it’. This reflects ongoing unease among teachers and researchers that, despite the rapid increase in the number of TAs now working in schools, which has broadly been welcomed, there remains continuing uncertainty about the impact that they have in raising academic standards, in helping pupils to participate and on their wider impact in schools.

## 1.4 Definitional and conceptual issues

Definitional and conceptual issues are described below under two headings. The first defines the context for the review and the second the types of ‘impact’ included for pupils as well as the school. Finally, the definition of ‘process’ is described, that is, the factors that deliver the impact described in the literature.

### 1.4.1 The research context

The context for the review defines the parameters within which literature searching was conducted.

#### 1.4.1.1 Mainstream schools

Mainstream schools were defined as those schools, in the UK and abroad, that cater for the education of children of compulsory school age within their locality. In most countries’ education systems, many schools do not serve the whole of their local population and are, to this extent, inherently exclusive. The authors’ concern, however, was to identify studies of schools which were broadly comparable to the state primary and secondary schools with which the majority of users of this review will be concerned. Studies of schools that serve a wide range of children in their locality (as defined in that national context) are included. These were normally mainstream (i.e. non-special) schools in the state sector.

Selection of pupils on the basis of ‘academic ability’ did not constitute an exclusion criteria, and denominational and faith schools were included on the grounds that they formed an integral part of many mainstream state education systems.

‘Special’ schools - for children with learning disabilities or with social, emotional or behavioural difficulties - have a long history of adult support staff within the classroom and are therefore qualitatively different from mainstream schools. As the main thrust of the current review is to examine

the impact of new ways of working, special schools were not covered in this review. In addition, alternative schools, withdrawal units, off-site units and other forms of ‘alternative’ provision were also excluded.

#### 1.4.1.2 Adult support staff

Paid or unpaid adults working, directly or indirectly, to provide general or targeted support to pupils within schools

#### 1) PAID AND UNPAID SUPPORT

‘Paid adult support’ included those employed by a school (or local authority), on a permanent or temporary contract, to support pupils. The review excluded studies of the impact of fully trained professionals who offer support in relation to their professionalism (educational psychologists, school counsellors and other therapists).

‘Unpaid adult support’ included volunteers who agree to share their expertise, in a structured or regular way, to benefit schoolchildren. For example, cricketers from the local team may coach groups over several weeks to promote the game, encourage fitness and provide an aspirational role model. The definition specifically excluded volunteering by parents on an ad hoc basis.

Support staff can be classified, using descriptive groups generated in a study on the deployment and impact of support staff in schools (Blatchford *et al.*, 2006). This classification derived seven groups of support worker. The current review was concerned with the first three of these groups, but incorporated three particular roles within the first two categories that are classified within the ‘Other pupil support staff’ category in the Blatchford *et al.* (2006) study, as follows:

1. TA equivalent: TA, LSA (SEN pupils), nursery nurse, therapist, language assistant
2. Pupil welfare: Connexions personal advisor, education welfare officer, home-school liaison officer, learning mentor, nurse, welfare assistant and *midday assistant/supervisor*
3. Technical and specialist staff: ICT network manager, ICT technician, librarian, science technician and technology technician

The remaining categories were not considered appropriate to the particular focus of this review. The justification for extracting the roles highlighted in italics above was that these represented pupil-focused activities likely to impact on pupil outcomes of interest. The remaining role categories could not be justified in this way.

## 2) DIRECT OR INDIRECT SUPPORT TO PUPILS

'Direct' support workers included teaching assistants, special support assistants, or 'paraprofessionals' (US), learning mentors, and child welfare support workers, such as school nurses. 'Indirect' support is provided by staff such as librarians, laboratory technicians and educational welfare officers. Type of support has been defined by Blatchford *et al.* (2008) in a recent report on the deployment and impact of support staff in schools. They derive six types of support; however, this review will only consider the first four types outlined, as follows:

1. Support for teachers and/or the curriculum
2. Direct learning support for pupils
3. Direct pastoral support for pupils
4. Indirect support for pupils

The remaining categories did not appear relevant to an adult support staff role focused (directly or indirectly) on improving pupil outcomes.

## 3) GENERAL OR TARGETED SUPPORT

'General' support was considered to include:

- activities undertaken in the 'classroom' (widely defined to include library and sports facilities) to support the learning of *all class members*
- activities undertaken to provide 'roving' support for the learning of individual pupils within a teaching period aimed at *whole group teaching*

Targeted support was considered to include:

- activities undertaken within or outside the classroom to support the learning of individual or small groups of pupils aimed at increasing their participation and achievement
- activities undertaken to support the learning and participation of all pupils vulnerable to exclusionary pressures, not only those with impairments or any pupils who are categorised as 'having special educational needs'

### 1.4.2 Impact

#### 1.4.2.1 Pupil focus

##### 1) IMPACT ON PARTICIPATION

At its most fundamental, participation constitutes actual attendance both in school and in classes within school. Naturally this physical presence underlies any other conceptualisation of what 'participation' may constitute. Beyond this there are, however, a number of other ways in which participation may be described: that is, more

specifically in terms of 'engagement' in learning activities. These include the following:

'Paying attention' to the instruction given within a class, without which knowledge cannot be absorbed. 'Paying attention' in turn involves task engagement, on-task behaviour and rejection of off-task behaviour.

Opportunities and encouragement to 'join in', not only with projects or activities within the classroom (curriculum access) but with extra-curricula activities; that is, opportunities are not limited due to assumptions about abilities.

Opportunity to exercise 'choice' in learning activities, an important lever to motivate learning for the individual pupil

Opportunities to participate in social activities or groupings (social access).

Participation involves three key aspects of schools: their 'cultures', that is their shared sets of values and expectations; their 'curricula', that is the learning experiences on offer; and their 'communities', that is the sets of relationships they sustain. Aspects of participation might be indicated: for instance, by access to a full curriculum, a sense of being welcomed and valued or a contribution to decision-making. This review sought evidence of the impact of adult support on participation in these three aspects. It was anticipated that some relevant studies would focus on one or other of these aspects (rather than holistically relating to all three) of participation. For example, they might show the impact of teaching assistants on curricular access, or engagement in learning within the classroom; or of learning mentors on the expectations of disaffected pupils in a school; or education welfare officers on school attendance.

##### 2) IMPACT ON ACADEMIC LEARNING

The review sought studies which were concerned to demonstrate impact on learning, defined here in terms of the progress that pupils make. It was considered important to conceptualise 'progress' broadly in relation to individual potential, rather than solely in relation to centrally set targets. Impact on learning might come about through various strategies which were made possible by adult support, such as greater differentiation with a class.

##### 3) IMPACT ON SOCIAL AND EMOTIONAL ADJUSTMENT

The review considered the impact of adult support on non-academic aspects of pupil welfare, conceptualised as social and emotional adjustment. These are important factors both in terms of facilitating academic learning and preparing the pupil for adult life. The definition of social and emotional adjustment included:

- self-esteem (confidence, aspirations)
- relationships (successful group membership, rejection of bully/victim identities)
- psycho-social factors (withdrawal, hyperactivity, aggression)

#### 1.4.2.2 School focus

#### IMPACT ON MAINSTREAM SCHOOLS

As noted above, the introduction of an array of pupil learning support workers could impact widely on the school setting. This could include impact on the roles of teachers, but potentially also the way schools are configured and managed. Changes in pupil progress could ultimately impact on school status. The current review sought studies on the impact - positive or negative - of support staff on:

- teaching (curriculum, teaching methods and assessment)
- teachers (role, workload, stress and job satisfaction)
- leadership (senior teachers including headteachers - roles, workload, stress and job satisfaction)
- school climate (ethos, wellbeing, cohesion, school status, parent/community engagement)

#### 1.4.3 Processes leading to pupil and school outcomes

In addition to the impact on pupil and school outcomes, the review aimed to document explanations of such effects. The review therefore aimed to identify (where the information was available) the processes through which positive and negative outcomes were observed or measured as a result of adult support within school. Taking specific outcomes, the aim was to identify the following:

- what support was given
- how the support was organised or delivered
- who provided the support
- facilitating factors in delivery of support
- obstacles to the delivery of support

Figure 1.1 summarises the conceptual issues and their relationships as outlined above.

#### 1.4.4 Conclusion

The original review looked at the ways in which *paid* adult support contributed to or hindered the participation and learning of pupils in mainstream

schools. Evidence included measurements of pupil outcomes and perceived improvements by those involved in their education (e.g. teachers, support staff, parents or the pupils themselves). This review aimed to bring these findings up to date by finding new evidence produced between 2002 and 2008. In addition, the review searched for data on the impact of unpaid support staff on pupil participation and learning, and on the school itself: that is, on climate, teaching methods, staff morale, effectiveness and leadership. Finally, the review also sought to provide information on the processes that lead to these various outcomes.

### 1.5 Purpose and rationale for review

As noted above, the signing of the national agreement (*Raising Standards and Tackling Workload*, DfES, 2003) and the transformation of the school workforce that occurred in response, has led to considerable research activity in relation to adult support staff in school since the conclusion of the original review. The purpose of this review was to reflect this additional activity in relation to the impact of adult support and how such impacts were facilitated.

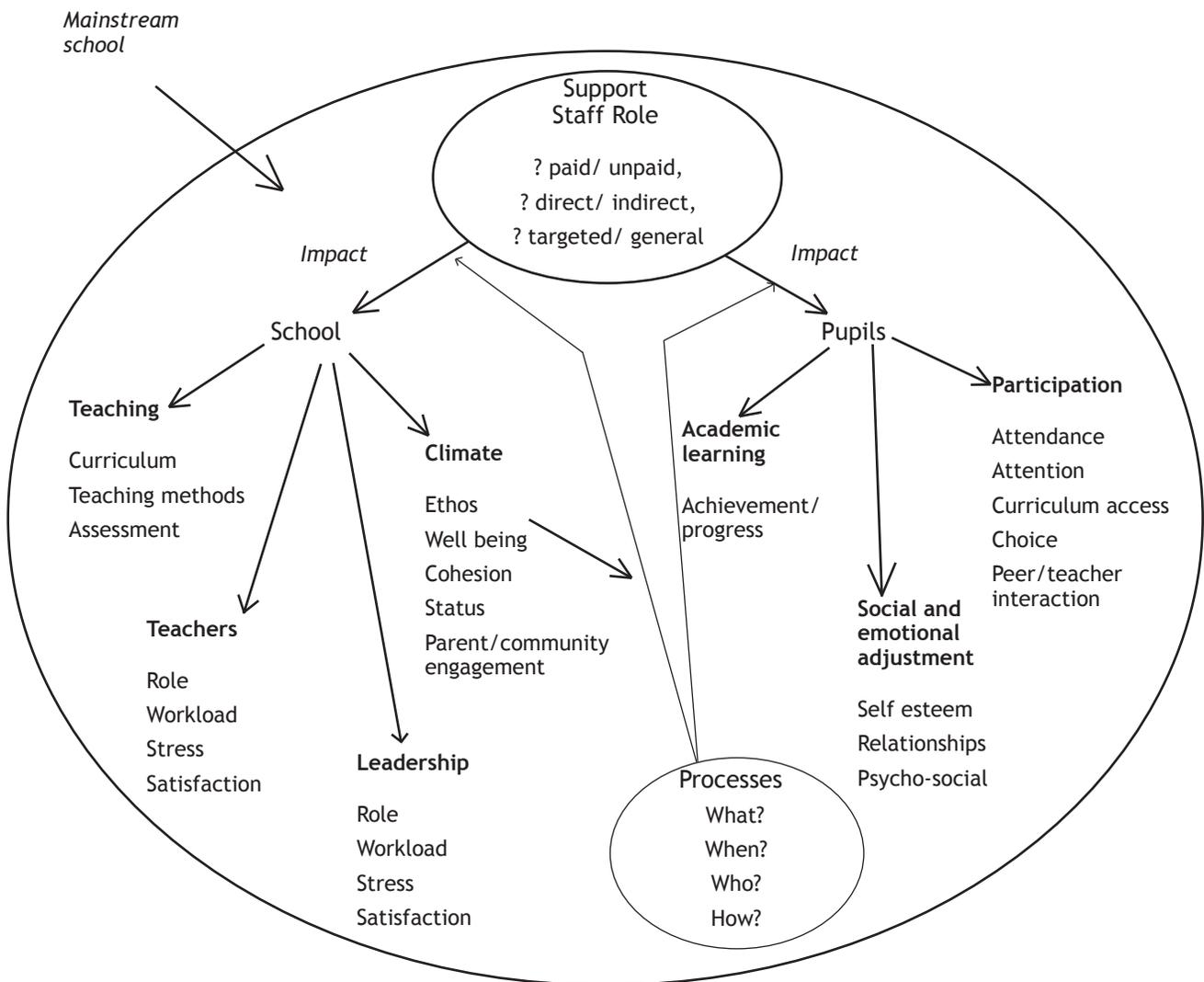
There is some speculation that support staff have had a wider impact than that investigated in the original review. It is suggested that there may be direct and indirect impacts on teachers, leadership and management within schools. The update of the original review provided an opportunity to tap research activity in this regard.

### 1.6 Authors, funders and other users of the review

The review was conducted by the Educational Support and Inclusion Group who undertook the original review of the impact of paid adult supporters on the learning and participation of children in mainstream schools. This group is based in the School of Education, University of Manchester and is committed to working towards equality of opportunity for all children within educational establishments. It has a long history of research into the factors that optimise learning and participation experiences for disadvantaged children, including those with special educational needs and those affected by poverty.

The Department for Children, Schools and Families (DCSF) funded the review, through the Evidence for Policy and Practice Information Co-ordination Centre (EPPI-Centre). The EPPI-Centre provided a method and framework through which the review was conducted (see EPPI-Centre, 2001b) and, as a result, it contributed to, and was comparable with, other reviews conducted through this centre. The EPPI-Centre is building a valuable database of studies that may be drawn on by a wide range of users.

**Figure 1.1:** The potential impact of adult support on pupil and school outcomes



The funders of the review wished to gain an overview of research on the effect or impacts of the recent changes in the school learning focused workforce. The findings of the review may also be of interest to school leadership and teachers, as well as support services and local authority managers. Parents and pupils may also be interested in these developments, presented in a suitably accessible format. It may empower parents to discuss the support needs of their child(ren) in school with teachers and encourage them to talk about support with their child him/herself.

**1.7 Review questions and approach**

**1.7.1 Review questions derived from the rationale**

1. What is the impact of adult support staff on the participation and learning of pupils in mainstream schools?

1.1. What are the support processes that lead to impacts on pupils?

2. What is the impact of support staff on mainstream schools?

2.1. What are the processes that lead to these school outcomes?

**1.7.2 Approach**

Two aspects of each publication were considered: firstly, whether the publication was concerned with ‘impact of adult support staff’, as defined above; and secondly, given fulfilment of this first criterion, whether it specifies what type of support produced the impact, and in what circumstances.

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## CHAPTER TWO

# Methods used in the review

This chapter provides an overview of the procedures underpinning the review. It provides the reader with details on the rigour of the methodology and the impact of these on the search for appropriate literature. Details of the number and type of publications identified are also provided.

### 2.1 Type of review

This review was conducted between May and October 2008. It was systematic, following the EPPI-Centre guidelines (2001a) and comprised five stages: literature searching and identification; selection of literature in accordance with inclusion criteria; mapping and quality evaluation of identified publications; data extraction; and final synthesis.

The review addressed the broadly defined question on the impact of adult support in mainstream schools as outlined above. It used a range of searching techniques to identify relevant literature to update the original review completed in 2003 and to search for additional publications to extend the review. A map of keywords allocated to relevant publications provided a descriptive structure through which the review questions were delineated. Finally, the evidence was combined in a complex synthesis to answer the review question from a range of perspectives and in depth. The review also highlighted gaps in the literature.

### 2.2 User involvement

For the original review, extensive consultations were undertaken with teachers, adult support staff and others working in schools, as well as a number of influential academics, to illuminate the issues of importance for the review. Time constraints for the current review prohibited this type of consultation, although the team had the benefit of the earlier discussions. However, detailed discussions were undertaken with representatives of the Department for Children, Schools and Families (DCSF), which informed the conduct of the review. In addition, as the team were based in the School of Education, University of Manchester, a number of on-site

experts were available to consult. As part of the literature identification process, the team also contacted a number of external experts in the field (national and international - see Appendix 1.2), with a view to identifying key publications, grey (or unpublished) literature, and further important contacts.

### 2.3 Identifying and describing studies

Studies identified through a range of search methods were subject to scrutiny, guided by comprehensive criteria relating directly to the research questions given above. In addition, the criteria reflected the availability and accessibility of publications. These are described in detail below.

#### 2.3.1 Defining relevant studies: inclusion and exclusion criteria

The inclusion/exclusion criteria were drawn widely in a number of respects.

##### *Time, place and language*

Publications were sought in the English language. Time limitations for conducting the work prohibited inclusion of non-English language texts due to the time it would take to gain a translation. However, no other geographical limitation was placed on included studies. In addition, no time limitation was set for inclusion. Therefore, publications of any age were included, provided they met key criteria.

### Study type

Only studies that provided empirical data were included. Any methodology was accepted, provided it was conducted with sufficient rigour, which was determined as part of the data-extraction determination of 'weight of evidence'. Consequently, the publications needed to give sufficient detail for the reviewers to be clear on the strategies used in implementing studies.

### Scope

All publications were required to address the impact of adult support for pupil learning within mainstream schools. As detailed in section 1.4.2, 'impact' was defined in terms of both pupil and school outcomes.

### Population

A focus on adult support for pupil learning within mainstream schools, between the ages of 3 and 16, was a primary criterion for inclusion in the review

Full details of these concepts are given above, and the guiding inclusion/exclusion criteria are listed in Appendix 2.1.

### 2.3.2 Identification of potential studies: search strategy

Terms generated for the 2003 review, and more recent reviews in this field (Cajkler *et al.*, 2006, 2007a, 2007b) were consulted to ensure a comprehensive range of search terms encompassing the teaching assistant (TA) role. Additional search terms for unpaid adult support and school impacts were generated through citations in key articles (identified through research experience in the area).

A database of potentially relevant publications on 'paid adult support staff' existed from the original review. This was supplemented by a search of appropriate electronic databases covering books, journal articles, conference papers and proceedings, and reports. A search strategy was developed for this part of the process. It involved the identification and combination of sets of search terms by which literature identified according to the protocol as relevant to the review, was classified within individual databases. Where databases had no such classificatory system, such as 'subject headings' or 'descriptors', a set of 'free text' terms was devised, agreed and tested out in individual databases. The electronic databases and resources were searched for relevant content (Table 2.1).

**Table 2.1:** Electronic databases searched

British Education Index
ERIC
Expanded Academic ASAP
International Bibliography of the Social Sciences (IBSS)
PsycInfo
Social Sciences Citation Index (ISI Web of Science)
Sociological Abstracts
TESOL Quarterly
Zetoc: Electronic Table of Contents

Other sources which aided the identification of potentially relevant studies included personal contacts within the School of Education, University of Manchester, and as indicated above. These contacts identified a number of relevant and ongoing research studies within this field of interest or suggested sources of unpublished/grey literature. In addition, a forum for teaching assistants was accessed and searched for relevant publications.

The Zetoc alerting service was used for both a keyword search of numerous relevant publications and to provide current contents listings of key journals identified for the review. This process provided the equivalent of a 'handsearch' of key journals.

A search was carried out of websites suggested by members of the original review and advisory groups, of national and international organisations which commission and publish research in the field. Given the time constraints for the review, copies of Masters' dissertations and PhD theses were not sought. Experience has shown that these take many weeks to obtain.

This strategy represented a wide-ranging search designed to find a high proportion of the relevant studies in the first instance.

### 2.3.3 Screening studies: applying inclusion and exclusion criteria

The broad search strategy outlined above generated a large number of related studies. However, many of these were focused on support staff roles, training initiatives or practice guidance, which were to be excluded from the review. Screening was therefore strict and comprehensive in establishing relevance before further evaluation and mapping. This comprised three screening phases for relevance: raw (as generated by electronic databases); title and abstract only; and full text. References screened at the raw stage and considered potentially relevant to the review were downloaded and saved into an EndNote database. Conversely, references that were indisputably irrelevant to the review were not saved. This database was then used to generate lists of titles and abstracts from the selected studies.

Four independent reviewers, fully briefed on inclusion and exclusion criteria, assessed titles and abstracts for relevance to the review and made a recommendation to their apparent relevance for the review. Any studies that a reviewer was unsure whether to mark as relevant were flagged and discussed between the reviewers in light of the inclusion and exclusion criteria. The reviewer recommendations were compared and discrepancies discussed. Where, following discussion, the relevance of a publication was still unclear, the full text was obtained. Relevant and potentially relevant (or unclear) publications were obtained and the status of all obtained publications was reviewed on the basis of the full text to confirm their relevance to the review before proceeding to the mapping phase of the process. Hence all studies were screened twice before inclusion in the review.

### **2.3.4 Characterising included studies**

Studies identified as relevant to the review were examined and described using EPPI-Centre Educational Keywording sheet (EPPI-Centre 2002), plus additional review-specific keywords (see Appendix 2.3). The latter comprised keywords used in the original review updated in light of work by recent researchers, as described above, and the additional areas covered in this review. See Appendix 3.1, which describes key features of mapped publications.

### **2.3.5 Identifying and describing studies: quality-assurance process**

1. The reviewers worked closely to ensure that the inclusion criteria and keywording system were used consistently.
2. The reviewers kept in contact with EPPI-Centre link person with a view to ensuring that the methods were applied correctly and consistently with other review teams.

#### *Title and abstract screening: quality assurance*

In order to establish whether inclusion criteria were being applied consistently, two of the reviewers completed a comparison of 207 citations. Complete agreement on inclusion was achieved in 85% of cases. However, a large number of disagreements involved citations where the relevance was unclear. The disagreements in this case were largely from exclude to 'query relevance', or from a 'query' to exclude. When these citations were excluded and straightforward agreement/disagreements were analysed, an inter-rater reliability of 94% was obtained. These levels of agreement were deemed satisfactory.

#### *Keywording: quality assurance*

To ensure that keywording was being applied consistently across publications, 10% of papers (N=5) were scrutinised for keywording discrepancies in key

fields of the 'review specific' keywording questions. This scrutiny revealed that there was an acceptable level of agreement (see Appendix 2.4). Given the above, the Review Group were confident in moving on to the next phase of the review process.

## **2.4 In-depth review**

### **2.4.1 Moving from broad characterisation (mapping) to in-depth review**

The mapping exercise demonstrated that few relevant studies described the impact of support staff other than TAs, and, where they did this, was in addition to, rather than instead of, TAs. A decision was made, therefore, to focus the review on the TA category alone (see mapping categories in Appendix 3.1). No identified study evaluated the impact of support staff on school leadership and therefore this issue could not be reviewed.

### **2.4.2 Detailed description of studies in the in-depth review**

Full reports of studies were interrogated at this stage using a set of standard data-extraction questions devised by the EPPI-Centre (2001a) alongside review-specific data-extraction questions. Studies were analysed thematically, by impact keyword, with each of the four reviewers taking responsibility for one or two themes. Data extraction was completed administratively by the first thematic reviewer and confirmed subsequently by one or more reviewers, who accessed the publication to extract data appropriate for their theme and check the primary methodological data extraction. Where a publication addressed a single theme (overwhelmingly 'academic' impact), a second reviewer confirmed the details of the extraction.

As noted above, the four reviewers were allocated 'themes'. This was based on the coherence of the area and number of publications relevant to the theme. Key information from selected studies was extracted. In particular, key findings from each publication were recorded literally (in the form given by the author(s)). Details of findings from included publications can be found in Appendix 4.1. This enabled each reviewer to build a body of knowledge relating to one or more 'theme'. Literal findings were then incorporated in the synthesis according to their place in the conceptualisation driving the review (see Figure 1.1).

### **2.4.3 Assessing quality of studies and weight of evidence for the review question**

As in the 2003 review, the Review Group used the 'weight of evidence' tool (EPPI-Centre, 2001a), a procedure for judging the weight of evidence of each study to provide an indication of which ones should be seen as contributing most significantly and robustly to understanding the impact of paid

adult support. There are three key elements to this judgement: trustworthiness, appropriateness of design and analysis, and relevance of focus.

Weight of evidence A: Taking account of all quality assessment issues, can the study findings be trusted in answering the study question(s)?

Weight of evidence B: Appropriateness of research design and analysis for addressing the question, or sub-questions, of this specific systematic review.

Weight of evidence C: Relevance of the primary focus of the study (including conceptual focus, context, sample and measures) for addressing the question or sub-questions of this specific systematic review.

Weight of evidence D: Taking into account quality of evidence (A), appropriateness of design (B) and relevance of focus (C), what is the overall weight of evidence this study provides to answer the question of this specific systematic review? A, B and C were considered equally in coming to this judgement.

Literature searching produced relevant data using quantitative, qualitative and mixed method designs. There are clear stipulations for the conceptualisation of 'quality' for both these methodologies and so the criteria relevant for each design were adopted for its evaluation. This review was concerned with evidence on the relationship between specific aspects of educational provision. In accordance with the EPPI-Centre weight of evidence tool, the quality criteria used was concerned with answering the following questions:

Is the chosen research method appropriate to the research question(s)?

Is the sampling adequate?

Is the methodology adequate / clearly described?

Is the way the author(s) analysed their results appropriate? Could there be an alternative explanation for the result?

Is there honesty and integrity in the interpretation of the findings?

What interests are served by the work: who funded the research and how did they influence its findings?

How was the work reviewed, if at all?

Such questions formed the basis of a judgement about the weight of evidence provided. The weight of evidence reported in the tables in Chapter 4, refer to the 'Overall' quality of the publication (WoE D).

The studies were rated as high, medium or low on each of the weight of evidence (WoE) categories described above, as follows:

### *High*

WoE A: Clear evidence that the study answered one or more of the study questions or sub-questions.

WoE B: The design and analysis used in the study was entirely appropriate and robust for answering the study's research question(s)

WoE C: The study addressed one or more of the review research questions directly.

WoE D: The study is entirely relevant to one or more of the review questions and is appropriate and robust in terms of its design and analysis.

### *Medium*

WoE A: Evidence that the study is relevant to one or more of the study questions or sub-questions.

WoE B: The design and analysis used in the study was appropriate and robust in answering its research question(s).

WoE C: The study addressed one or more of the review research questions to some extent.

WoE D: The study is of general relevance to one or more of the review questions, and satisfactory in design and analysis.

### *Low*

WoE A: Some evidence that the study related to one or more of the review questions or sub-questions.

WoE B: The design and analysis used in the study was unclear or not entirely appropriate and robust for answering its research question(s).

WoE C: The study indirectly addressed one or more of the review research questions.

WoE D: The study is of some relevance to one or more of the review questions, but questionable in terms of design and analysis.

The review addresses a number of themes, any or all of which might be addressed in a study. However, the weight of evidence supporting each finding may not be equivalent. For example, a publication may have a high weight of evidence in relation to impact on 'teaching' but low weight of evidence in relation to impact on 'school climate'. Each of the sections below, therefore, discusses the weight of evidence in relation to the theme as opposed to the review overall. Where a range of literature is available on a theme that is not a primary focus of research, similar findings across the range can provide some legitimisation for reported effects. This type of evidence was sought in relation to under-researched themes.

### 2.4.4 Synthesis of evidence

The synthesis of findings used the conceptual framework outlined in Chapter 1. These key concepts are interrelated in practice, and impacts on one individual or process is likely to impact further on related individuals or processes. For example, TA support that impacts on teaching practice (an outcome in its own right) can ultimately impact on a range of pupil outcomes. This in turn may impact on teachers themselves in enhanced job satisfaction, or stress reduction. The framework outlined here therefore provides a useful tool for exploring this complex field.

The synthesis is therefore structured by the research questions and within this by the coherent areas of impact defined in the rationale for the review and identified in the literature.

#### **RQ1: What is the impact of adult support staff on the participation and learning of pupils in mainstream schools?**

##### THEMATIC AREAS

##### Participation in classroom activities

- attention
- curriculum access
- peer/ teacher interaction

##### Academic progress

- general
- reading
- mathematics
- reading/mathematics
- language

##### Social and emotional development

- self-esteem
- relationships
- psycho-social development

Sub-question: What are the support processes that lead to identified impacts on pupils?

#### **RQ2: What is the impact of support staff on mainstream schools?**

##### THEMATIC AREAS

##### Teaching

- curriculum
- teaching methods

##### Teachers

- role
- workload
- stress
- satisfaction

##### Climate

- ethos
- parent engagement

Sub-question: What are the processes that lead to these school outcomes?

##### 2.4.4.1 Overall approach to and process of synthesis

Using the structure afforded by the expected impacts of the adult support, as conceptualised in this review, the literal and heuristic findings from included studies were combined in a synthesis of knowledge on the research questions.

Synthesis took place at the findings level. Approach to synthesis was determined by the nature of the literature identified and is discussed briefly at the beginning of each section.

##### 2.4.4.2 Selection of studies for synthesis

The question of quality of publication is significant and in general only studies of proven rigour were included in the synthesis. Relevant studies whose quality was less trustworthy were not used to support critical aspects of the framework if more robust evidence was available. However, where a study was of low quality on WoE B (design/analysis), but tackled a particular issue for which there was little relevant literature, it was included and its limitations made clear.

##### 2.4.4.3 Criteria for identifying important review results

The review results were discussed in an ongoing fashion among the Review Group at the University of Manchester. This enabled all concerned to stay abreast of emerging findings and evaluate the overall direction of the review.

### 2.4.5 Deriving conclusions and implications

The Review Group identified important results in consultation with local experts in the field, and the final conclusions and implications from the research were derived from these discussions.

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## CHAPTER THREE

# Identifying and describing studies: results

This chapter describes how publications were identified and the process adopted to select those to be included. It gives a basic description of the included literature as a body of knowledge in this field, including evaluations of quality and distribution across the conceptual model driving the review.

### 3.1 Studies included from searching and screening

As searching was likely to generate a large number of publications, the inclusion/exclusion criteria were applied rigorously from the outset. As noted above, there were several stages in generating the sample of studies to be mapped for inclusion in the review. The inclusion criteria had been discussed at length among the Review Group and clear guidelines were set.

The initial phase of searching and screening involved evaluation of 'raw' lists of papers generated through keyword searching on electronic databases, websites and other sources. Display lists of publication listings were scanned to select only those which related directly, or could relate indirectly, to support staff in schools. In this way, 2,638 out of 3,574 publications were excluded in the first phase because they were clearly irrelevant to the current review. Details of potentially relevant publications (N=519) were stored in an Endnote database and then uploaded to the EPPI-Reviewer database.

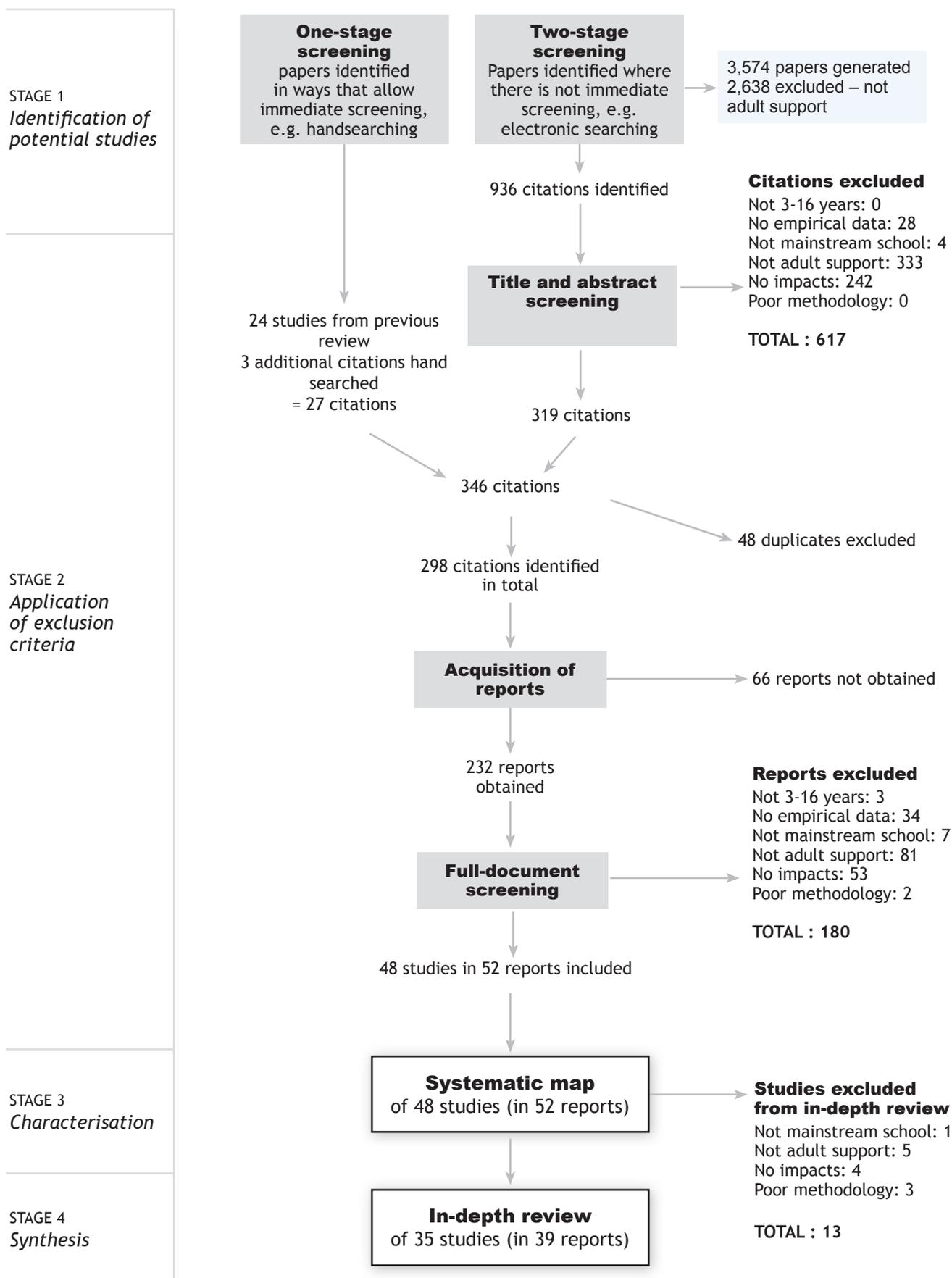
417 papers on adult support, identified for the 2003 review, were saved in an Endnote database. These were uploaded to the EPPI-Reviewer database. The latter were screened as part of the 2003 review, but required re-screening for the current review due to the additional inclusion criteria on school impacts and wider definition of adult support staff used. The two datasets were combined and 936 citations went through the second phase of screening, evaluation of title and abstracts. Of these, 319 were considered to be relevant, or potentially relevant to the review. Where reviewers were unsure of relevance, the full text was sought to confirm status.

The above publications were combined with 24 publications included in the 2003 review and three articles added through additional handsearching; 48 duplicates were removed. The full text of the remaining 298 citations was sought. However, we were unable to obtain 66 of these in the timeframe available for the review. Full document screening proceeded, therefore, on 232 publications. A considerable number of these were not relevant to the review on inspection of the full text. The remaining 48 studies reported in 52 publications were included in the mapping exercise. Of these, 35 studies (in 39 reports) were subjected to the in-depth review. This filtering process is outlined in Figure 3.1.

### 3.2 Characteristics of the included studies (systematic map)

The included studies comprised 39 publications from five countries, although the majority reported English/Welsh or US-based studies. The overwhelming majority of studies examined TA support in primary schools (that is age range 5-10 years), although a few conducted studies across nursery and primary, or primary and secondary schools. Most studies also addressed TA support to pupils with additional needs, comparatively few focused on general support to pupils in the classroom. The methodologies employed were also wide ranging. Those addressing impacts on academic attainment tended to be quantitative methodologies, whereas those addressing other impacts largely employed qualitative or mixed methods: that is, reported the perceptions of teachers, TAs or, rarely, pupils themselves.

**Figure 3.1** Filtering of papers from searching to map to synthesis



**Table 3.1** Characteristics of included studies (N = 39, \*categories not mutually exclusive)

Characteristic	Number of publications
Country of origin	
England/Wales	15
Scotland	2
USA	20
Canada	1
Sweden	1
Methodology	
Quantitative	14
Qualitative	5
Mixed	20
Educational setting*	
Nursery	4
Primary	36
Secondary	12
Pupil focus*	
Underachievement	12
Behaviour	5
Disability	13
General	9

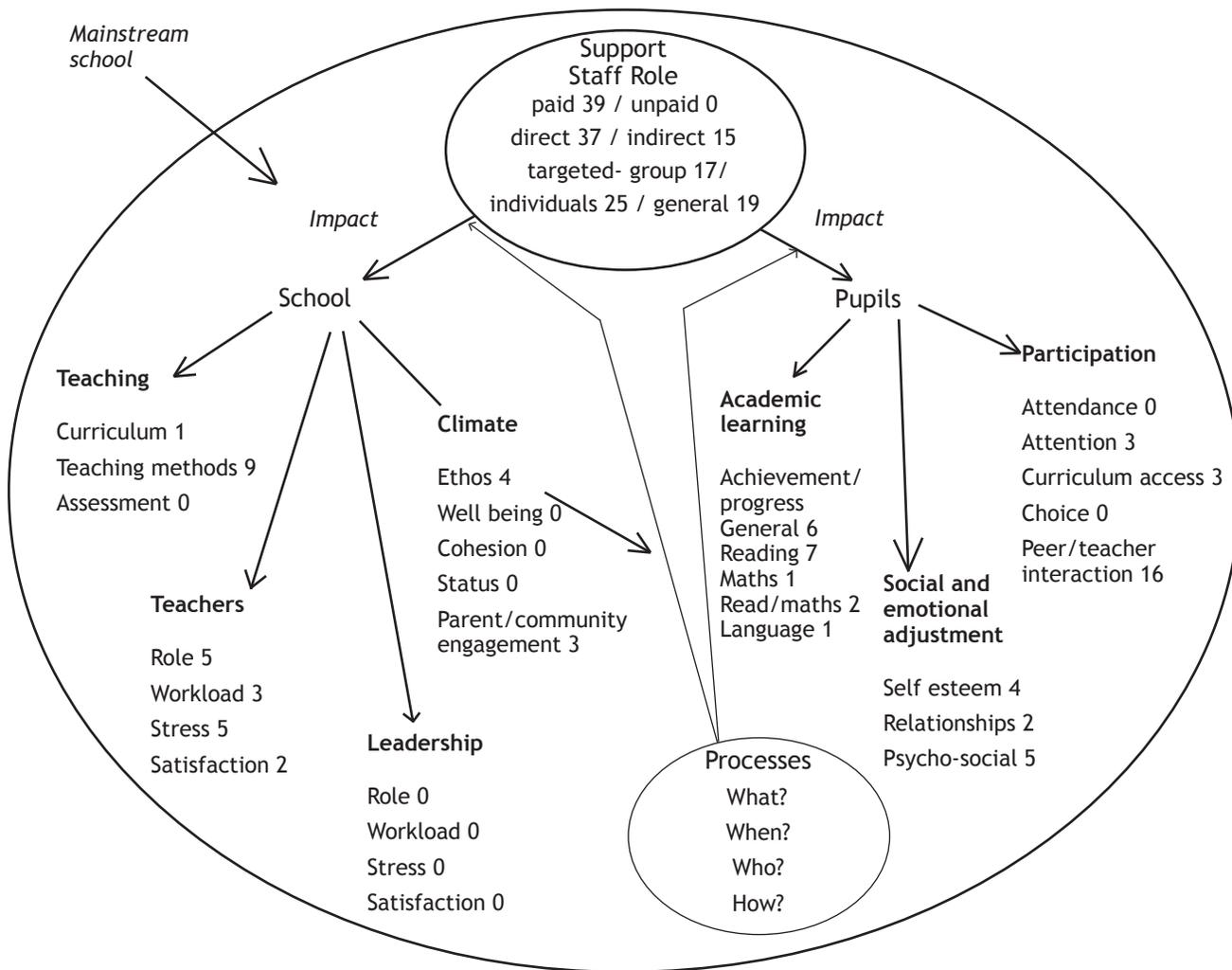
### 3.3 Identifying and describing studies: quality-assurance results

Review specific publications were distributed equally among the four reviewers, ensuring that the publications allocated addressed the reviewers' theme(s) specifically. These reviewers were responsible for primary data extraction and completing EPPI-Reviewer Data Extraction processes. Subsequently, each paper was passed to another of the reviewers for extraction of findings relating to their specific theme. This process allowed theme leaders to read and comment on each others' data extraction, improving the quality and coherence of the review.

### 3.4 Summary of results of map

Figure 3.2 summarises the distribution of studies across the conceptual model used to underpin the review.

**Figure 3.2:** Included reports on impact of adult support staff on pupils and schools (N = 39, \*categories not mutually exclusive)



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## CHAPTER FOUR

# In depth review: results

This chapter presents the findings of the review, with the synthesis themed by impact: pupil impacts (academic, participation, and social and emotional) are presented first; these are followed by school impacts (teaching, teachers and climate). Following each of these sections' findings, processes and gaps in the literature are summarised. Detailed descriptions of included studies can be found in Appendix 4.2.

### 4.1 Synthesis of evidence

The quality of the evidence on which this review is based varied with the theme (see Table 4 below). Studies evaluated for the 2003 review retained their original weightings.

A number of high quality studies were available to consider the impact of support staff on academic achievement or progress, and a smaller number on participation characterised by academic engagement. However, for other themes, and sub-themes, the evidence relied for the most part on the views and experiences of teachers and support staff themselves. These qualitative studies were also largely conducted in a rigorous manner. That is, they provided detailed description of methods employed, demonstrating their validity, and used techniques, such as triangulation, to strengthen reliability of findings. Data was clearly presented, using examples illustrating the veracity of the conclusions drawn, and any limitations of the research were discussed. However, a few qualitative studies reviewed, or at least their reporting, was of low quality. Most of these studies were excluded from the review. In these cases, this was due to poor methodological rigour, lack of clarity in reporting, or because they were based on the perceptions of a single person. The members of the Review Group were, therefore, content with the quality of the studies that are synthesised in this chapter, and each theme presents a brief analysis of the quality of the data synthesised.

The publications reviewed used a range of terms to signify the role of support staff. To avoid confusion, the label 'teaching assistant' (TA) has been used throughout the review, rather than the particular

terms used in the original publications. In each of the sections below, tables present details of publications upon which that theme of the review is based. Within these tables, columns describing 'focus of support' and 'area of impact' are theme-specific. The information they contain therefore varies depending on the review theme.

### 4.2 Impact of support staff on pupils

The sections below review the evidence on the impact of support staff on pupils' participation in class and wider school environment, their academic progress, and personal development in terms of self, relationships with peers and psycho-social characteristics.

#### 4.2.1 Impact of support staff on pupil participation

There are 19 studies that consider the impact of TA support on pupil participation. As referred to earlier in this report, 'pupil participation' refers to attendance, engagement in learning, interaction with peers and adults and curriculum access. The wide variety of intervention approaches, foci and methodological designs of these studies precludes a meta-analytical approach to review. Findings are therefore synthesised by target group: that is, pupils with special educational needs (SEN) and support to all students in the classroom. A summary of these studies is presented in Table 4.2.

**Figure 4.1:** Weight of evidence analysis of included studies (N = 39)

Weight of evidence	Trustworthy	Rigorous	Relevant	Overall
	WoE A	WoE B	WoE C	WoE D
Blatchford <i>et al.</i> (2001)	High	Medium	High	High
Blatchford <i>et al.</i> (2006)	High	High	High	High
Blatchford <i>et al.</i> (2007)				
Blatchford <i>et al.</i> (2008)	High	High	High	High
Bowers (1997)	Medium	Medium	Medium	Medium
Boyle <i>et al.</i> (2007)	High	High	High	High
Broer <i>et al.</i> (2005)	High	Medium	High	High
Butt and Lance (2005)	Medium	Medium	High	Medium
Causton-Theoharis (2005)	High	High	High	High
Cremin <i>et al.</i> (2005)	High	High	High	High
Frelow <i>et al.</i> (1974)	Medium	Medium	Medium	Medium
French and Chopra (1999)	High	Medium	Medium	Medium
Gerber <i>et al.</i> (2001)	Medium	Medium	Medium	Medium
Giangreco <i>et al.</i> (1997)	High	High	High	High
Giangreco <i>et al.</i> (2001)	High	High	High	High
Grek <i>et al.</i> (2003)	High	High	High	High
Hemmingsson <i>et al.</i> (2003)	High	High	High	High
Lacey (2001)	Medium	Low	Low	Low
Loos <i>et al.</i> (1977)	Medium	Medium	High	Medium
Malmgren and Causton-Theoharis (2006)	High	High	Medium	Medium
Miller (2003)	High	Medium	High	High
Moyles and Suschitzky (1997a)	Medium	Medium	High	Medium
Moyles and Suschitzky (1997b)	Medium	Medium	High	Medium
Muijs and Reynolds (2003)	High	High	High	High
O'Shaughnessy and Swanson (2000)	High	High	High	High
Robertson <i>et al.</i> (2003)	High	Medium	High	Medium
Rose (2000)	Medium	Low	High	Medium
Savage and Carless (2005)	High	Medium	High	High
Savage and Carless (2008)				
Savage <i>et al.</i> (2003)				
Tews and Lupart (2008)	Medium	Medium	High	Medium
Vadasy <i>et al.</i> (2006)	High	High	High	High
Vadasy <i>et al.</i> (2007)				
Vander Kolk (1973)	Medium	Medium	Medium	Medium
Wang and Algozzine (2008)	High	Medium	High	High
Welch <i>et al.</i> 1995)	High	High	High	High
Werts <i>et al.</i> (2001)	Medium	High	Medium	Medium
Werts <i>et al.</i> (2004)	Low	Low	Medium	Low
Woolfson and Truswell (2005)	Medium	Medium	Low	Medium

**Table 4.2:** A summary of included studies on the impact of support staff on pupil participation (N = 19 studies)

Paper	Overall quality (WoE D)	Type of study	Type of school	Focus of support	Area of impact	Impact of support
Blatchford <i>et al.</i> (2008)	High	Mixed	Primary and secondary	All pupils, including SEN	Interaction with teachers and pupils	Mixed
Bowers (1997)	Medium	Qualitative	Primary and secondary	Disability General	Interaction with teachers and pupils	Negative
Broer <i>et al.</i> (2005)	High	Qualitative	Secondary	Learning disability	Interaction with teachers and pupils	Negative
Causton-Theoharis (2005)	High	Mixed	Primary	Severe disability pupils	Interaction with pupils	Positive
Cremin <i>et al.</i> (2005)	High	Mixed	Primary	General	Attention	Positive
French and Chopra (1999)	Medium	Qualitative	Nursery, primary and secondary	SEN pupils	Interaction with teachers and pupils	Negative
Giangreco <i>et al.</i> (1997)	High	Qualitative	Primary and secondary	Multiple disabilities	Interaction with teachers and pupils	Negative
Giangreco <i>et al.</i> (2001)	High	Mixed	Primary and secondary	High and low incidence disabilities	Interaction with teachers and pupils	Mixed
Hemmingsson <i>et al.</i> (2003)	High	Mixed	Primary and secondary	Physical disabilities	Interaction with teachers and pupils	Mixed
Lacey (2001)	Low	Qualitative	Primary and secondary	Disability	Interaction with teachers	Positive
Loos <i>et al.</i> (1977)	Medium	Mixed	Primary	General	Attention	Positive
Malmgren and Causton-Theoharis (2006)	Medium	Qualitative	Primary	EBD pupil	Interaction with pupils	Negative
Moyles and Suschitzky (1997a)	Medium	Mixed	Primary	General	Attention	Positive
Moyles and Suschitzky (1997b)	Medium	Quantitative	Primary	ASD	Curriculum access	Positive
Robertson <i>et al.</i> (2003)	Medium	Qualitative	Primary	SEN pupils	Interaction with teachers	Negative
Rose (2000)	Medium	Qualitative	Primary	Severe disability pupils	Curriculum access Interaction with pupils and teachers	Negative
Tews and Lupart (2008)	Medium	Qualitative	Primary and secondary	ASD/spina bifida	Interaction with pupils	Negative
Werts <i>et al.</i> (2001)	Medium	Quantitative	Primary	Disability	Curriculum access Interaction with pupils and teachers	Positive
Werts <i>et al.</i> (2004)	Low	Qualitative	Nursery, primary and secondary	Disability	Interaction with pupils	Positive
Woolfson and Truswell (2005)	Medium	Mixed	Primary	Early years learning	Interaction with pupils	Positive

Of the 19 studies, 14 focused on the relationship between the presence of adult support staff and the participation of pupils who have varying degrees of disability, such as moderately disturbed, severely disabled, intellectually disabled (Bowers, 1997; Broer *et al.*, 2005; Causton-Theoharis, 2005; French and Chopra, 1999; Giangreco *et al.*, 1997, 2001; Hemmingson *et al.*, 2003; Lacey, 2001; Malmgren and Theoharis, 2006; Robertson *et al.*, 2003; Rose, 2000; Tews and Lupart, 2008; Werts, 2001, 2004). The remaining five focused on the impact of TAs on the participation of pupils with a wide range of abilities (Cremin *et al.*, 2005, Blatchford *et al.*, 2008; Loos *et al.*, 1977; Moyles and Suschitzky, 1997a,b; Woolfson and Truswell, 2005).

The majority of these studies involved mixed methods designs, which typically combined surveys, interviews and focus group data with structured or unstructured observation. Two exclusively focused current or former pupils' views (Broer *et al.*, 2005; Tews and Lupart, 2008), while others (e.g. Lacey, 2001) incorporated pupils' interviews into the data collected from other stakeholders. Four studies adopted experimental methods either involving measuring aspects of pupil participation before and after TAs received some training, or by comparing the participation of similar groups of pupils who were educated in settings with different levels of TA support (Causton-Theoharis and Malmgren, 2006; Cremin *et al.*, 2005; Loos *et al.*, 1977; Werts, 2001).

#### 4.2.1.1 *The impact of TAs on the participation of pupils with SEN*

The majority of 'pupil participation' studies focus on the impact of TAs whose main responsibility is to support pupils with SEN with a particular focus on interaction with peers and adults. This has been the aspect of the work of TAs that has been of concern to teachers and researchers for many years (for example, Balshaw, 1991; Balshaw and Farrell, 2002; DfES, 2000a; Lee, 2002; Neill, 2002). Much of this concern relates to the extent to which the presence of a TA to support pupils with SEN can promote, or act as a barrier to, interaction with pupils and teachers. Hence a key aim of this part of this systematic review is to consider the research evidence that can shed light on this issue.

A number of detailed qualitative studies of classroom practice have focused on the ways in which TAs work with pupils and adults so as to assess their impact on pupil interaction with each other and with their teachers. Giangreco *et al.* (1997), for example, studied the support arrangements for seven female and four male students with disabilities, all identified as deaf-blind, although each had some residual hearing and or vision. The students ranged in age from 4 up to 20 years. All these students were reported to have significant cognitive delays and additional disabilities. Analysis of this data suggested that the close proximity between the student with disabilities and the TAs was associated with, among other things, (a)

interference with ownership and responsibility by teachers, and (b) separation of these pupils from classmates.

In a further study, Giangreco *et al.* (2001) focused primarily on the issue of TA support on a one-to-one basis with children with low incidence disabilities and those operating in a programme-based arrangement working with children with high-incidence disabilities. The study draws attention to the marked difference in the level of engagement the general education teacher displays towards pupils with disabilities which, it appears, is a direct result of the method of TA service delivery. It suggests that the more established or embedded a 'programme-based approach' is within a school setting, the more likely paraprofessionals operating within it will receive on-the-job training, mentoring and be given greater autonomy in the classroom. The more collaborative the approach, the more likely it is that the teacher shows a greater willingness to interact directly with pupils with disabilities, in much the same way they might interact with non-disabled pupils. For those teachers who see paraprofessionals as working more independently on a one-to-one basis with a pupil, their preference appears to be to let them get on with it and the teacher's interaction with the pupil is largely peripheral. However, as becomes clear further in the study, the impact on pupils with disabilities - too much reliance on independent paraprofessional support and/or too much interference on the task in hand - can leave them feeling marginalised, even stigmatised.

This impact on teacher and pupil interaction of the proximity of the TA to children with disabilities was also referred to in the mixed methods study by Lacey, in which researchers asked parents, TAs and teachers questions about the aims of inclusion. A key finding was that TA support was more effective in encouraging interaction when directed towards groups of pupils rather than individuals. Individual support of pupils may have been necessary for academic learning, but did not necessarily promote social interaction, as it may have further isolated these pupils from the class and the classroom teacher.

Three further studies also highlight the concern that the presence of a TA might, in some instances, and with some pupils, inadvertently but, adversely affect a pupil's ability to interact with pupils and teachers (see Broer *et al.*, 2005; Malmgren and Causton-Theoharis, 2006; Tews and Lupart, 2008). In Malmgren and Causton-Theoharis (2006), 'paraprofessional proximity' contributed to fewer peer interactions than expected for a pupil with an emotional/behavioural disorder (EBD). In the Broer *et al.* (2005) study, the experiences of ex-pupils' TA support was overall mostly negative, with TA proximity a contributory factor to this negative perception. TAs were thought to offer too much assistance, were over-protective, did not know when to back off and inhibited social relations.

Although Tews and Lupart (2008) report that TAs were viewed favourably by pupils they supported, socialisation and peer networking was compromised due to the amount of pupil time spent interacting exclusively with the TA. These findings were also evident in a study of the perceptions of teachers (and from classroom observations) in a mainstream school with a high percentage of pupils with SEN who were supported by TAs (Rose, 2000). The teachers appreciated the work of the TAs in supporting these pupils and promoting inclusion, and this work was rendered more effective through teamwork and communication. However, they also felt that the allocation of TA support can create a culture of dependency on the TA and hence be a barrier to participation.

This latter finding of TAs being viewed favourably by one or more key stakeholders, but at the same time perceived as acting as a barrier to peer and teacher interaction, is reflected in a number of other studies. For example, in two studies of parents' perspectives on the value of TA support (French and Chopra, 1999; Werts *et al.*, 2004), they comment on the TA's role as a facilitator in peer interactions. However, in the French and Chopra study, they also felt that this close relationship can create barriers between supported pupils and others where they become dependent on the TA. In the study by Werts *et al.* (2004) study parents stated that, on the whole, they were hugely supportive of TAs. Where the teacher is usually preoccupied with the rest of the class, the TA was seen as the key facilitator to improving social interaction for those pupils in need. However, with that presence can bring dependence on an adult.

Other studies on pupil views on the impact of TA support report similarly mixed findings. For example, the major finding from the Hemmingsson *et al.* (2003) study was that pupils felt that TAs can both facilitate and hinder participation. The telling finding appeared to be twofold: that pupils would prefer to perform without help, so they are like their peers, and secondly that they are willing to accept help if again, it helps in their interaction with their peers. Therefore, while pupils welcome this TA facilitation, TAs may inadvertently undermine opportunities for pupil self-determination. Bowers (1997) also surveyed pupils' views, in this case the views of pupils without SEN about the role of TAs in their school. The majority believed that pupils who received support from TAs valued and appreciated that support. This finding confirms a view of support staff as having a positive impact on learning and participation. However, some also expressed the view that TAs were 'lower-order professionals' or as somehow stigmatising pupils by supporting them.

In this review, only one study (Robertson *et al.* 2003) had no association between the presence or absence of TAs in mainstream classrooms and pupil interaction with peers and teachers. The focus of this study was on the inclusion of 12 primary

aged pupils with autism, of whom only six were supported by a TA. In relation to this review, the key findings were that there was no association between the presence or absence of TAs, and the quality of the relationship between the teachers and the pupils with autism. Regardless of whether a TA was present, the teachers reported similar levels of closeness to the pupils with autism. The authors expressed surprise at this finding in view of contrary outcomes from other research in this area. By way of explanation, they comment on the excellent relationships between TAs and teachers in the schools that took part in this study. Both shared responsibility for teaching the child with autism and in planning the IEPs. In addition, the TAs did not stick close by the child all the time and had received training in how to work with SEN children, often alongside the teachers.

Clearly, in the Robertson *et al.* (2003) study, a great deal of thought had been given to providing high quality training and support to the TAs and in making them feel fully included in the planning and decision making in relation to the pupils with autism. This may well have resulted in higher levels of teacher-pupil interaction than was evident in other studies. Indeed, both Bowers (1997) and Hemmingsson *et al.* (2003) refer to the negative consequences that can result from marginalising the TA, that they report feeling isolated from the teacher and teaching practices, and only develop relationships with fellow TAs. French and Chopra (1999) also refer to the poor training and unclear roles of TAs which may be a reflection of the low status afforded to them.

In order to counter the negative impacts on participation that the presence of a TA can bring, Causton-Theoharis and Malmgren (2006) designed a study specifically to encourage and increase peer interaction among pupils (with severe disabilities). They devised a training programme to teach TAs to facilitate peer interactions which led to a change in their behaviour and a subsequent positive impact on peer interaction.

An additional issue to consider is the relative importance in a child's education of social interaction versus academic learning. Although, on the one hand, the close proximity of TA might impede social interaction, it may, on the other hand, increase levels of academic engagement. Werts *et al.* (2001) explored this area in their study of three students with disabilities in a primary school. They asked the question 'Does proximity of a paraprofessional have an impact on the academic engagement of a student with substantial difficulties?'. It was found that the on-task behaviour was higher for all three students when the TA was close to the student. Thus the authors suggest that closer 'proximity should be followed when academic engagement is the desired outcome'. This study suggests that teachers and parents need to strike a balance between the need to promote social interaction and the need to focus on traditional academic tasks.

#### 4.2.1.2 *The impact of TAs on the participation of all pupils*

So far, this chapter has considered studies on the relationship between TAs and pupil participation solely in relation to their impact on pupils with SEN, the main focus being on impact on interaction with peers and adults. Other studies have focused on the impact of TAs on the participation of all pupils, including those with SEN.

Two of these studies (Loos *et al.*, 1977; Cremin *et al.*, 2005) refer to the impact of TAs in promoting the academic engagement (on-task) behaviour of all pupils. Loos *et al.* (1977) described how the output of a whole class changed under three different 'aide conditions', ('helping adult', 'disciplinary adult' and 'fifth-grade pupil') compared with the no-aide condition. The type of aide behaviour affected the percentage of on-task behaviour with the 'disciplinary adult' achieving the highest 'on task' score. In a more recent intervention study, Cremin *et al.* (2005) focused on three models of TA deployment with the aim of determining the effectiveness of each model on pupil engagement (i.e. on-task behaviour). Using a pre- and post-test design and following training in each of the respective models, all pupils' on-task behaviour increased, irrespective of the particular model that was adopted. The authors suggest that it was the collaboration between the teachers and assistant which was associated with each model, and not the model itself, that contributed to increases in on-task behaviour.

Two mixed methods studies (Moyles and Suschitzky, 1997a; Woolfson and Truswell, 2005) investigated the role and impact of TAs from a variety of perspectives, with the focus primarily being on services TAs provide for all children although, in the Moyles and Suschitzky study, about half the sample were also thought to have SEN. This study was also interested in the impact of a training course on changing TAs' perceptions of their role, whereas the study by Woolfson and Truswell focused on the impact of the introduction of five TAs in three schools over a nine-month period. In relation to the impact of TAs on pupil participation, both studies refer to very positive findings, indicating that key stakeholders felt that TAs had a key role in helping all pupils to participate: for example, through helping them to participate in games, take turns and help them to stay focused on academic tasks). There were some minor caveats: for example, some of the findings also suggested that perhaps, through lack of training or guidance, TAs might inadvertently impede a pupil's creative process by taking over a task.

There are aspects of all the above studies that are reflected in the outcomes of a major DCSF funded study undertaken by Blatchford *et al.* (2008). This substantial study is the only large-scale mixed methods study that has focused on the work of support staff in England and Wales. It follows on from two previous studies, also funded by the DCSF:

Blatchford *et al.* (2004, 2005). However, the 2008 study addressed the issue of the impact of TAs on pupil participation, an aspect that was not covered in detail in the earlier reports. The findings from this study, involving a large-scale teacher survey in 76 schools, case studies and systematic classroom observations, yielded a number of findings. In particular, they found that TAs are effective in helping pupils to engage in academic learning, - they are less distractible, better motivated, more likely to complete work and follow instructions - particularly if TAs are seated close to pupils whom they are supporting. Perhaps as a result, these pupils interacted more with their TA than with the teachers. In relation to pupil interaction with teachers, when TAs were present in a class, pupils were more likely to have a passive role, listening to them talk to the whole class and less frequently involved in one to one interaction. Indeed, pupils who were allocated support were six times more likely to be the focus of attention from TAs compared with teachers - especially those with more serious levels of SEN. However, when the TAs were absent, pupil-teacher interaction increased. Overall, 'there are grounds for conceiving of interactions between support staff and pupils as an alternative as much as an additional form of support'. Overall the message from the Blatchford *et al.* (2008) study is that TAs help children's on-task behaviour, but that, for many, they are the adult with whom they interact the most and that TAs' presence in the classroom may act as a barrier to teacher-pupil interaction.

#### 4.2.1.3 *Summary*

##### FINDINGS

Findings in relation to TA impact on participation of pupils with SEN present a mixed picture. Fourteen studies were identified, including six high, six medium and two low quality studies. Of the 14 studies, seven (two high and five medium quality) reported a negative impact where over reliance on TA support, or too much support, hindered pupil interaction with peers and teachers, undermined opportunities for self-determination, or led to pupils feeling stigmatised.

Four studies (two high and two low quality) suggested that TAs had a positive impact on pupils with SEN in relation to maintaining engagement in academic activities, and, where appropriately trained, in supporting communication with peers. Two studies reported mixed findings which supported those summarised above. One study reported a 'neutral' finding. TA support to pupils with autistic spectrum disorders did not improve or interfere with pupils' interactions with teachers.

Five studies (two high and three medium quality) reported on the impact of TAs on participation of all pupils and four of these presented a positive view. The presence of TAs in a mainstream classroom, was found to help pupils engage in academic tasks and

activities. One high quality study reported mixed findings supporting the above conclusion in relation to engagement in learning, but suggested that, where support was focused more intensely, this could have a negative effect on interaction with the teacher.

#### PROCESSES

Close TA support enhances pupil engagement in academic tasks. However, TAs need to be aware of their effect on pupils' interactions with peers and classroom teachers, ensuring that the supported pupils' opportunities for self-determination are maximised.

There is some evidence that training can enable TAs to achieve a beneficial balance between support for academic engagement and for social interaction.

Collaboration between teachers and TAs in the planning and delivery of lessons can assist in the facilitation of pupil engagement.

#### GAPS IN THE LITERATURE

Very little literature was found on the impact of TA support on curriculum access. The small amount identified was raised with hindsight in discussion of the research findings.

Almost all the reviewed literature related to pupils with learning difficulties. Literature on the impact of TAs on the participation of normally developing children was missing.

#### 4.2.2 Impact of support staff on academic progress

There are a large number of papers (19) that are reviewed in this section. In order to help the reader to navigate through the text, the papers have been classified into the following four groups, reflecting measured versus perceived impact on academic attainment, and interventions targeted at individuals or small groups versus non-targeted interventions:

1. **Targeted intervention studies**, in which TAs were selected to work with a specified group of pupils with an identified problem in learning and where the impact on their attainments was *measured*, usually through a test of some kind, before and after TA involvement.
2. **Non-targeted intervention studies**, in which the mere presence of a TA in the classroom is linked to the *measured* academic achievements of all children in a class, school or group of schools.
3. **Targeted intervention studies**, in which TAs were selected to work with a specified group of pupils with an identified problem in learning and there are indicators of *perceived* impact - for

example, teachers' parents' or pupils' views.

4. **Non-targeted intervention studies**, in which the indicators of *perceived* impact on academic outcomes across a class, school or group of schools are associated with the presence of a TA.

Studies that fall into each of these four sections will be discussed separately.

##### 4.2.2.1 Targeted intervention studies (measured impact)

Ten high quality targeted intervention studies referred to in Table 4.3 adopt quantitative methodologies while two used mixed methods. Despite the quantitative data, meta-analysis was not considered feasible because studies differed in fundamental ways. This included the nature and duration of the intervention, and age group targeted. In all the studies, the attainments of pupils (typically, years 1 and 2) were tested before and after the introduction of TA support. In order to aid the interpretation of targeted intervention studies, in this section and the one that follows, a summary of the methodologies used and the outcomes is presented in Table 4.3; this table also provides information about the age of the pupils, the length and type of the interventions. Full details of interventions used in each of these studies is presented in Appendix 4.2.

Apart from Grek *et al.* (2003), intervention group findings were compared with pupils in a comparison or control group, where there was no TA support or where TAs undertook other work. In all these studies, the support offered was targeted at pupils who had an identified problem in basic attainments, either early literacy skills (Grek *et al.*, 2003; Miller, 2003; Savage *et al.*, 2003, 2005, 2008; O'Shaughnessy and Swanson, 2000; Wang and Algozzine, 2008; Vadasy *et al.*, 2006; Vadasy *et al.*, 2007), literacy and numeracy (Welch *et al.*, 1995), numeracy (Muijs and Reynolds, 2003) or a more general language delay (Boyle *et al.*, 2007).

The overriding conclusion from eight of these nine studies is that trained and supported TAs, either working on a one-to-one basis or in a small group, can help primary aged children with literacy and language problems to make significant gains in learning when compared, in all but two of the studies, with similar children who do not receive TA support. This is an encouraging finding and one which has major implications for the planning and delivery of services to children with learning difficulties in mainstream schools.

The studies themselves, all but three of which are rated as 'high' on the weight of evidence indicator, are methodologically similar in a number of ways. First, they all used direct and well known measures of pupil attainment at pre- and post-test. Second, the TAs received training in how to deliver the intervention and they were supported throughout

**Table 4.3:** A summary of included studies on measured impact of targeted intervention studies on academic outcomes (N = 10 studies)

Paper	Overall quality (WoE D)	Type of study	Type of school	Focus of support	Area of impact	Impact of support
Boyle <i>et al.</i> (2007)	High	Mixed	Primary	Specific language difficulties	Language skills	Positive
Grek <i>et al.</i> (2003)	High	Quantitative	Primary	Literacy difficulties	Reading	Positive
Miller (2003)	High	Quantitative	Primary	Literacy difficulties	Reading	Positive
Muijs and Reynolds (2003)	High	Quantitative	Primary	Numeracy difficulties	Mathematics	Positive
O'Shaughnessy and Swanson (2000)	High	Quantitative	Primary	Literacy difficulties	Reading	Positive
Savage <i>et al.</i> (2003, 2005, 2008)	High	Quantitative	Primary	Literacy difficulties	Reading	Positive
Vadasy <i>et al.</i> (2006)	High	Quantitative	Primary	Literacy difficulties	Reading	Positive
Vadasy <i>et al.</i> (2007)	High	Quantitative	Primary	Literacy difficulties	Reading	Positive
Wang and Algozzine (2008)	High	Quantitative	Primary	Literacy difficulties	Reading	Positive
Welch <i>et al.</i> (1995)	High	Mixed	Primary	Literacy and numeracy difficulties	Reading and mathematics	Mixed

the process. Third, they included fidelity checks to ensure that they carried out the interventions in the correct way. Fourth, the intervention and control groups were carefully selected and matched. Despite their overall methodological rigour, only one of these studies (Savage *et al.*, 2003, 2005, 2008), included a longitudinal follow-up of the students' progress after the intervention period had ceased.

Given the similarity in the methodologies used in these studies, one might have expected the same positive outcomes to have occurred in all of them. Why then did the study by Muijs and Reynolds (2003) yield a different finding, indicating that the children in both intervention and control groups made the same amount of progress? There are a number of minor differences in the methodologies that might go some way to explain this unexpected finding. First there were differences in the length and intensity of the interventions. Although the intervention in the study by Muijs and Reynolds (2003) lasted for a year, the average amount of TA support offered to the experimental group was less than an hour per week. This is less than the pupils in the other studies, where the mean was one and a half hours per week. Another possible explanation is that the TAs were recruited from within the school and were not, as in the majority of other studies, recruited from outside solely for the purpose of carrying out an intervention. However, the most likely explanation is that the pupils in the study by Muijs and Reynolds (2003) were not withdrawn from class during the intervention sessions as they were in most of the other studies. Hence the pupils and TAs may not have viewed the intervention as being particularly 'high stakes' or unusual and this might have inadvertently reduced their investment in its success. This issue may also have been a factor in explaining the mixed findings from the study by Welch *et al.* (1995), in which all the pupils were taught in their mainstream class. Although pupils from two year groups in this study made progress in mathematics and reading following the intervention, children in other year groups did not. Hence, the introduction of TAs was not an unqualified success.

A major conclusion from the remaining studies is that TA intervention can help children experiencing difficulties in early literacy and language skills to make significantly more progress than similar pupils who did not receive TA support. This is an important finding, but it does not tell us anything about whether pupils with learning difficulties who are taught by TAs could do as well or better than similar groups taught by class teachers. Put simply, for pupils who experience learning difficulties, are TAs as successful as teachers in providing effective support? If they are, then schools and local authorities should have no concerns about appointing TAs, who are less expensive to employ and less well qualified than teachers, to support children who are experiencing problems.

One further distinguishing feature of these studies is that in only three of them was the performance

of a 'qualified' group (teachers - Grek *et al.*, 2003; Miller, 2003; or speech and language therapists - Boyle *et al.*, 2007) compared with the performance of the less qualified group (TAs or speech and language therapy assistants (SLTAs)). The fact that, in all three studies, there were no differences in the progress made by pupils taught by the TAs or SLTAs when compared with those taught by their qualified colleagues, suggests that trained and supported interventions from TAs (or SLTAs) for children with literacy or other difficulties might be just as effective as support provided by teachers. This suggests that, if class teachers (CTs) carried out the interventions reported in the other studies, rather than TAs, the pupils would have made the same amount of progress when compared with a control group.

However, before claiming that these three studies show that TAs can be as effective in delivering interventions as teachers, it is worth bearing in mind that TAs and SLTAs in the studies by Boyle *et al.* (2007) and Miller (2003) were more qualified and experienced than is often the case. For example, the majority of TAs in the UK do not have a university degree and many hold no qualifications above a grade C in GCSE (Blatchford, 2006). In the Boyle *et al.* (2007) study all the SLTAs had a psychology degree and experience of working with children. In the study by Miller (2003), four of the seven TAs were certified teachers who were working as assistants. It is possible that the higher than usual level of qualification and experience of the TAs and SLTAs in these studies was the key factor in enabling them to be just as effective as teachers or SLTs in helping the children to make progress. However, this conclusion is tempered by the outcomes of the study by Grek *et al.* (2003), in which only one of the eight TAs had a degree and the profile of the remainder was similar to that found in the study by Blatchford (2006) and similar studies.

In the study by Miller (2003), the two interventions were very different: the teachers used Reading Recovery and the TAs used a tailor-made intervention programme; whereas, in the studies by Boyle *et al.* (2007) and Grek *et al.* (2003), both the teachers or SLTs and the TAs or SLTAs used the same programme. Furthermore, no information is provided in the study by Miller (2003) about the length of the intervention by the teachers. These reporting issues suggest that the findings should be treated with a certain amount of caution.

An additional and intriguing aspect of the study by Grek *et al.* (2003) concerns the fidelity of the interventions. Although all three studies included robust checks to determine the quality of the interventions, in the studies by Boyle *et al.* (2007) and Miller (2003), no concerns were raised about the ability of the TAs or SLTAs to deliver the interventions. In the study by Grek *et al.* (2003), however, although fidelity checks on the teachers and the TAs provided high scores (above 80%), the quality of the intervention delivered by the teachers

**Table 4.4:** Targeted academic interventions (N = 10 studies)

Study	Problem area	Age of children	Control group	Intervention length	1:1 or group	W'drawn from class	TAs' qual. *	Training for TA	Fidelity checks	Outcome measures	Findings
Boyle <i>et al.</i> (2007)	Speech/ Lang.	Year 1-6	Yes + SLT gp	30-40 minutes, 3 days/week, 15 weeks	Both	Yes	High	Yes	Yes	Language tests	Positive
Grek <i>et al.</i> (2003)	Literacy	Year 1/2	No	40 minutes/day, five days/week, 22 weeks	Group	Unclear	Medium	Yes	Yes	Achievement tests	Positive
Miller (2003)	Literacy	Year 1	Yes + Teacher gp	30-40 minutes, 4 days/week for 1 year	1 to 1	Yes	Medium	Yes	Yes	Literacy tests + Grade retention figures	Positive
Muijs and Reynolds (2003)	Numeracy	Year 1/2	Yes	37 hours over 1 year	Group	No	DK	Yes	Yes	Numeracy test	Negative
Savage <i>et al.</i> (2003, 2005, 2008)	Literacy	Year 2	Yes	20 minutes, 4 days/week, 9 weeks	Group	Yes	DK	Yes	Yes	Literacy tests	Positive
O'Shaughnessy and Swanson (2000)	Literacy	Year 2	Yes + 'Hawthorne'	30 minutes, 5 days/week, 6 weeks	Group	Yes	Low	Yes	Yes	Literacy tests	Positive
Vadasy <i>et al.</i> (2006)	Literacy	Year 2/3	Yes	30 minutes, 4 days/week, 20 weeks	1 to 1	Yes	Medium	Yes	Yes	Literacy tests	Positive
Vadasy <i>et al.</i> (2007)	Literacy	Year 2/3	Yes - i.e. crossover	30 minutes, 4 days/week, 20 weeks	1 to 1	Yes	Low	Yes	Yes	Literacy tests	Positive
Wang and Algozzine (2008)	Literacy	Year 1	Yes	110 lessons, 10/15 minutes each	Unsure	Yes	DK	Yes	Yes	Literacy tests	Positive
Welch <i>et al.</i> (1995)	Literacy and numeracy	Yrs 1-5	Yes	'Every day' for 1 year	Group	No	DK	Yes	Yes	Literacy / numeracy tests; number of references to special education	Mixed

\* Teaching assistant qualifications: In this column, the rating of 'high' is given when all the TAs in the sample had a university degree; a 'medium' rating is given when the majority of the TAs had completed a college course of some kind; and a 'low' rating is given when the majority of TAs did not undertake further training having left school. The rating 'DK' is given when the authors did not provide information about the qualifications of the TAs.

**Table 4.5:** A summary of included studies on measured impact of targeted intervention studies on academic outcomes (N = 5 studies)

Publication	Overall quality (WoE D)	Type of study	Type of school	Focus of support	Area of impact	Impact of support
Blatchford (2001)	High	Mixed	Primary and secondary	All children	General	Negative
Frelow <i>et al.</i> (1974)	Medium	Quantitative	Primary	Children in the first quartile for attainment	Reading and mathematics	Positive
Gerber <i>et al.</i> (2001)	Medium	Quantitative	Primary	All children	General	Mixed
Loos <i>et al.</i> (1977)	Medium	Mixed	Primary	All children	General	Positive

was judged to be significantly better than that of the TAs on five of the eight quality indicators. Hence, teachers were judged to be better than TAs in delivering the intervention. However, there was no difference in pupil outcome between the two groups, indicating that TAs and teachers were equally as effective in raising the literacy levels of these students. The authors offer possible explanations for this finding, one of which is the suggestion that the high level of scores on fidelity checks for both TAs and teachers (above 80%) might have been sufficient to ensure pupil progress and that scores above that level might be more cosmetic in relation to delivering better outcomes for the children. Furthermore, the difference in the quality of the interventions was mainly explained by the poor performance of only three of the eight TAs who only taught 16% (30) of the students. The quality of the interventions delivered by the remaining five TAs was similar to that of the teachers.

One final comment about all the targeted intervention studies concerns the possible impact of the Hawthorne effect. In all the studies, except O'Shaughnessy and Swanson (2000), there was no 'Hawthorne' group. This is a common problem with research that attempts to evaluate the impact of an intervention. Specifically, it is not known whether it is the techniques that the TAs used in these intervention studies which led to the children making progress, or whether it was because they received some extra time in a small group or on a one-to-one basis from the TA. O'Shaughnessy and Swanson (2000) deal with this problem by allocating some of the children with literacy difficulties to a mathematics group, in which they received mathematics support from the same TA who was also working with two other intervention groups on early literacy skills. They found that the literacy levels of the pupils in the intervention groups were significantly better following intervention, than those who attended the mathematics (Hawthorne) group. Hence, in this study, one can claim that it is the TA implemented intervention that made the difference. It was not due to the TA spending (non-literacy focused) time with the children.

#### 4.2.2.2 Non-targeted intervention studies: measured impact

There are four non-targeted intervention studies, of which two are large scale studies (Blatchford *et al.*, 2001; Gerber *et al.*, 2001) that focus on the impact of TAs on the academic attainments of all children in a number of primary schools. The studies by Frelow *et al.* (1974) and Loos *et al.* (1977), however, focus on the impact of TAs in one school. As with the targeted interventions data above, this data was not suitable for meta-analysis due to differences in study focus. Studies are therefore synthesised at the findings level and salient details are included in Table 4.6.

The studies by Gerber *et al.* (2001) and Blatchford *et al.* (2001) are part of larger projects that have investigated the relationship between class size and pupil attainment. The main findings of these studies are that the presence of TAs in a classroom has no clear and consistent effect on attainment of the class on average. Any differences found were judged to be idiosyncratic and possibly due to a chance combination of other factors.

The study by Blatchford *et al.* (2001) adds a note of warning about interpretation, emphasising a weakness, whereby the categories used for classroom support were too broad, and where there was no attempt to classify TAs in ways that might relate to effectiveness. This was seen as a possible explanation for the lack of clear, overall evidence from multi-level modelling of the benefits of classroom support on pupils' educational progress.

There are several important caveats to the message that TAs can have little impact on pupil attainment. First, unlike the targeted intervention studies, neither of these studies attempts to look at the impact on particular individuals or small groups of children within a class, who may be the focus of the support given. Gerber *et al.* (2001), for example, suggest that TA support may provide important attention and support to specific students, affecting individual but not class test scores, and this finding is supported in the previous section.

Second, the precise nature of the TA support was not described in these studies, and so they do not say much about the impact of TAs who undertake prescribed tasks. Correlations of teacher duties with student achievement suggest that 'more direct contact between teacher aides and students is associated with poorer student performance, and second that when teacher aides perform more clerical or administrative tasks, student achievement may be advanced' (Gerber *et al.*, 2001), but 'contact with students' remains as a very broad category, which does not distinguish between all the ways TAs can work with students.

Third, there is an issue of the difference between qualitative and quantitative findings in these studies. Qualitative data in the study by Blatchford *et al.* (2001) indicated that teachers considered that the presence of TAs resulted in increased attention by pupils, effective support for pupils' learning, increased teacher effectiveness and increased children's learning outcomes.

The findings discussed above, suggesting that TAs have no impact in non-targeted intervention studies, are contrasted by Frelow *et al.* (1974) and Loos *et al.* (1977), whose studies of the impact of TA support in two separate schools indicate that the presence of TAs had a positive outcome on academic learning. The study by Loos *et al.* (1977) looked at the impact of TAs in two open plan classrooms containing four class bases. The findings indicate that the presence of a TA had a positive impact on academic learning, particularly when the TA was assigned a 'helping' rather than simply a 'discipline' role. In this study, data was collected by trained, non-participant observers who were present in the classes throughout, and the authors do not acknowledge the possible confounding effect on the findings that might have resulted from their presence.

Although the study by Frelow *et al.* (1974) focused on changes in academic learning over a one-year period for children with difficulties in literacy (in the lowest quartile), it has been classed as a non-targeted intervention study as the TAs were not specifically directed to work with this group. They were unaware that the study was taking place and there was no control group. (Pupils' progress was compared with figures for similar groups in previous years.) As in the study by Loos *et al.* (1977), the findings indicated that the presence of the TA resulted in the pupils making more progress in literacy and numeracy than they had done in previous years when TAs were not present. Despite some methodological weaknesses in both studies (unacknowledged observer effects and the lack of a control group), the overall findings from both studies suggest that locally based, non-targeted intervention studies might yield more positive findings in relation to the impact of TAs than larger studies of the type reported by Gerber *et al.* (2001) and Blatchford *et al.* (2001).

#### 4.2.2.3 Targeted intervention studies (perceived impact)

Two contrasting studies were reviewed and synthesised at the findings level. They considered data on the perceived academic impact of TAs in targeted intervention studies and the findings from each are positive. The study by Boyle *et al.* (2007) collected perceived impact measures from parents, teachers and speech and language therapists (SLTs) or speech and language therapy assistants (SLTAs), based on rating scales of perceived impact and on qualitative data from questionnaires and focus groups. The key findings were that all stakeholders felt that the pupils made progress in language skills, irrespective of the groups in which they were placed (that is, with an SLT or SLTA). There were no comments from parents or teachers whose children were taught by SLTAs, suggesting that the children would have made more progress had they been taught by a qualified SLT.

The study by Broer *et al.* (2005) is the only one which sought the views of young people with learning disabilities about the impact of TAs. In relation to academic impact, a view emanating from the 15 former pupils who were interviewed suggests that the TAs helped them with their work, or had an impact on their learning (for example, in reading and in managing money).

#### 4.2.2.4 Non-targeted general intervention studies (perceived impact)

The series of studies (Blatchford *et al.*, 2006, 2007, 2008) contain some survey data, mainly from teachers and TAs, which refers to the impact of TAs on academic outcomes. Although this element was not the main focus of their research, the findings broadly indicate that school staff consider that TAs make a positive contribution to the academic attainments of pupils. However, they also comment that many teachers tended not to refer to 'pupil learning and attainment when addressing the benefits and effects of support staff'.

These generally positive findings are reinforced strongly by Woolfson and Truswell (2005), who sought the views of parents/carers, school staff and pupils about the impact of TAs. In relation to academic outcomes, the findings indicate that 70% of parents felt that TAs had 'played a part in improving [their] child's learning', a view which was reflected by the school staff.

The findings from both these studies are in line with other literature, which has not been included in the final synthesis of studies (for example, Farrell *et al.* 1999; Lee, 2002). Taken as a whole, they indicate that key stakeholders perceive the presence of TAs in classrooms as contributing to improved academic outcomes for children, although, as Blatchford *et al.* (2006, 2007, 2008) indicate 'the problem headteachers faced was proving it'.

**Table 4.6:** Non-targeted academic interventions (N = 4 studies)

Study	Support area	Age of children	Control group	Intervention length	TAs' qual. *	Training for TA	Fidelity checks	Outcome measures	Impact of support
Blatchford <i>et al.</i> (2001)	General	4-7 years	No	3 years	Medium	No	Yes	Assessments in Mathematics and Literacy	Negative
Frelow <i>et al.</i> (1974)	Literacy Numeracy	7-9 years	No	Over 1 year	Not reported	Yes	Yes	School tests	Positive
Gerber <i>et al.</i> (2001)	Mathematic Reading Word study skills	5-9 years	Yes	1-4 years	Low	No	Yes	Academic grades	Mixed
Loos <i>et al.</i> (1977)	Literacy Mathematics	7-10 years	Yes	8 weeks	Psychology student volunteers	Yes	Yes	Correctly completed work	Positive

\* Teaching assistant qualifications: In this column, the rating of 'high' is given when all the TAs in the sample had a university degree; a 'medium' rating is given when the majority of the TAs had completed a college course of some kind; and a 'low' rating is given when the majority of TAs did not undertake further training having left school. The rating 'DK' is given when the authors did not provide information about the qualifications of the TAs.

**Table 4.7:** A summary of included studies of perceived impact of targeted intervention studies on academic outcomes (N = 2 studies)

Paper	Overall quality (WoE D)	Type of study	Type of school	Focus of support	Area of impact	Impact of support
Boyle <i>et al.</i> (2007)	High	Mixed	Primary	Specific language difficulties	Language skills	Positive
Broer <i>et al.</i> (2005)	High	Qualitative	Secondary	Children with learning difficulties	General	Positive

#### 4.2.2.5 Summary

##### FINDINGS

Of eight high quality studies on targeted support for literacy to individuals or small groups, seven suggested that trained and supported TAs have a positive impact on pupils' progress. The remaining study reported mixed findings, with improvements in reading enhanced in those year groups where reading is emphasised.

Only two studies, also of high quality, addressed targeted support for numeracy; one of these found no impact on numeracy skills, while the other found mixed evidence. The former adopted a notably different approach from that described in studies on literacy support, which may account for this finding. The latter study found positive impacts only in year groups in which skill development in numeracy was emphasised.

One further high quality study evaluated the effectiveness of a language intervention and found a positive impact of suitably trained speech and language TAs on language skills.

Two studies on targeted support (both high quality) and three on general support (two high and one medium quality) reported positive perceptions on the part of teachers, parents/carers and pupils themselves regarding the impact of TAs on academic development.

##### PROCESSES

TAs are effective when trained and supported to deliver specific literacy interventions to individuals and small groups. However, there appears to be a critical length of implementation period required for such interventions to succeed. This appears directly related to the design of the intervention, rather than to the performance of TAs.

##### GAPS IN THE LITERATURE

The evidence reviewed here related largely to literacy initiatives. There is a clear lack of evidence on the impact of TAs on the wider curriculum.

#### 4.2.3 Impact of support staff on social and emotional development

There are six studies that have been included in this section of the review, all but one of which (Vander Kolk, 1973) is also referred to in other sections of this report. The data from these studies is synthesised under the theme of psychosocial development and a summary of these studies is presented in Table 4.9.

The methodology in four of these studies (Broer *et al.*, 2005; Blatchford *et al.*, 2008; Moyles and Suschitzky, 1997b; Woolfson and Truswell, 2005) focused mainly on the perceptions of key

stakeholders (e.g. teachers, pupils, parents) about the impact of TAs in relation to bringing about changes to social and emotional adjustment, although Blatchford, (2008) also added case studies and classroom observations. The papers by Frelow *et al.* (1974) and Vander Kolk (1973) report on intervention studies in which the behaviour of pupils was assessed before and after the introduction of TAs.

##### 4.2.3.1 Impact of TA support on psychosocial development

Although the findings from the surveys of stakeholders yield a whole range of comments about TAs and their work in school (see Broer *et al.*, 2005; Moyles and Suschitzky, 1997b; Woolfson and Truswell, 2005), comments about their impact on the social and emotional adjustment of pupils were general and not, on the whole, supported with detailed examples. For example, in the study by Moyles and Suschitzky (1997b), headteachers felt that there were improvements in pupils' self-esteem and that they were more independent as a result of TAs' support. Woolfson and Truswell (2005) refer to TAs providing emotional support to build confidence and positive relationships. The young people interviewed in the study by Broer *et al.* (2005) had mixed memories of the support they received from their TAs. Despite, or perhaps because of, their presence, the pupils had memories of being friends with their TA and happy to be with them, although they did not help them to develop their self-confidence in relation to making friends with their peers.

The study by Blatchford *et al.* (2008) collected a range of data from questionnaires, classroom observations and case studies. Teachers consider that TAs had a positive impact on pupils' overall behaviour and social skills; in particular, for primary aged pupils and, in relation to children with SEN, on levels of disruptive behaviour. They also comment that placing TAs close to the students they support can reduce incidences of 'negative' behaviour.

The two 'experimental' studies yielded contrasting findings. Frelow *et al.* (1974) introduced TAs to primary aged classrooms and focused in particular on changes in the behaviour of lower quartile children (i.e. children whose attainments were in the bottom 25% for their class). The overall findings after one year's intervention were extremely positive, with all pupils in this group being viewed as 'free of behaviour problems' in all aspects that were measured. Inevitably there were some individual differences and the authors also suggest that many of the target pupils had few, if any, behaviour problems at the start of the intervention. However, there were marked improvements in those that were a cause of concern.

In contrast to the Frelow *et al.* (1974) study, Vander Kolk (1973) focused on improving the self-esteem of pupils who were described as moderately

**Table 4.8:** A summary of included studies on perceived impact of non-targeted intervention studies on academic outcomes (N = 3 studies)

Paper	Overall quality (WoE D)	Type of study	Type of school	Focus of support	Area of impact	Impact of support
Blatchford <i>et al.</i> (2006, 2007)	High	Mixed	Primary and secondary	Range of problems	General	Positive
Blatchford <i>et al.</i> (2008)	High	Mixed	Primary and secondary	Range of problems	General	Positive
Woolfson and Truswell (2005)	Medium	Mixed	Primary	All children	General	Positive

**Table 4.9:** A summary of included studies on impact of support staff on pupil social and emotional development (N = 6 studies)

Paper	Overall quality (WoE D)	Type of study	Type of school	Focus of support	Area of impact	Impact of support
Blatchford <i>et al.</i> (2008)	High	Mixed	Primary and secondary	All pupils, including SEN	Psychosocial	Positive
Broer <i>et al.</i> (2005)	High	Qualitative	Secondary	Learning disability	Self-esteem, relationships Psychosocial	Mixed
Frelow <i>et al.</i> (1974)	Medium	Quantitative	Primary	Low ability pupils	Psychosocial	Positive
Moyles and Suschitzky (1997b)	Medium	Mixed	Primary	General	Self-esteem/relationships	Positive
Vander Kolk (1973)	Medium	Mixed	Primary	Moderately disturbed pupils	Self-esteem psychosocial	Mixed
Woolfson and Truswell (2005)	Medium	Mixed	Primary	Early years learning	Psychosocial self confidence	Positive

disturbed. TAs were trained in how to construct helping relationships as therapeutic agents and then individual meetings between TAs and a treatment group of 20 children were set up. The meetings were 'of two general types: verbal interaction almost exclusively, or games-walk-talk in combination. The number of meetings ranged from 5 to 25 per student with an average of 11 meetings, the length of meetings varied from 15 to 55 minutes' (p 240). The anticipated change in self-esteem for the entire group did not materialise. However, the self-esteem of those students who were given 5.5 to 9 hours of paraprofessional time was seen to develop more than those given less time. Hence, the disappointing finding may have been related to the limited amount of time the TAs were given to deliver the intervention. Indeed, the support staff themselves perceived that the withdrawn children became more self-revealing, while the children with behaviour problems achieved greater self-control.

From the limited number of studies that have been included in this chapter of the review, the overall conclusion is that TAs are perceived by key

stakeholders as having a positive impact on the social and emotional development of the pupils they support. In particular, they appear to offer help to teachers in classroom management and general classroom behaviour and that, for the pupils they support, they make a difference to their self-confidence.

#### 4.2.3.2 Summary

#### FINDINGS

Four of the six studies reviewed (one high and three medium quality) reported positive impacts of TA support on psychosocial development. The two remaining studies (one high and one medium quality) presented mixed findings. There was a general perception on the part of teachers, parents and pupils with learning difficulties that TAs can promote social and emotional development in children. However, perceptions of pupils with learning disabilities suggested that they recalled developing friendships with their TAs rather than with their peers.

One medium quality study also found that TAs were not successful in undertaking therapeutic tasks aimed at supporting children with emotional and behaviour problems. It was suggested that the intervention may have been too brief to be effective.

#### PROCESSES

The mechanisms at work in promoting positive outcomes in relation to social and emotional development are not clear in the literature. However, those studies reporting positive outcomes suggest that these are largely gained as a consequence of support for academic learning.

#### GAPS IN THE LITERATURE

Few studies have addressed the impact of TAs on the behaviour and adjustment of pupils as a whole.

### 4.3 Impact of support staff on mainstream schools

This section of the report describes the literature on the impacts of support staff on the school itself. This includes impacts on teaching, on teachers themselves and on the wider school climate, as characterised by its ethos and engagement with parents.

#### 4.3.1 Impact of support staff on teaching

Nine studies consider the impact of TA support on teaching. This area of impact was seen potentially to include effects on curriculum (the range and nature of the topics that teachers addressed, for example), teaching practices (the approaches that teachers took to organising the classroom and facilitating learning), and assessment (the way teachers employed assessment as a tool within the classroom, for example).

No studies in the review focused to any significant extent on the impact of support staff on assessment.

This section of the review organises the literature on the impact of support staff on teaching under three headings relating to the impact of support staff on teaching practices, and then to how they may facilitate or present a barrier to the effectiveness of teaching.

##### 4.3.1.1 Impacts on teaching practices

The categorisations of the function of teaching assistants made by the researcher in Hemmingsson *et al.* (2003) and by the pupils interviewed in Bowers (1997) have strong similarities. Both are based on observation, by the researcher and the pupils present in classrooms where support was being provided, respectively. Hemmingsson *et al.* (2003) highlight diversity in classroom practice: for example, in terms of how close TAs sit to the pupils. It was discovered that the TAs' position in

the classroom was related to specific characteristics of the help provided. The following three TA types were identified:

- the TA as stand-in for the pupil
- the TA as help-teacher
- the TA as back-up resource

Pupils' comments and observations in Bowers (1997) create a similar classification, whereby children's explanations for the presence of additional adults in the classroom were grouped into the following five main types, in order of most frequent:

- help for the teacher (i.e. teacher inadequate to cope with whole class)
- the disciplinary function (i.e. help calm the class down; an overlap with the first category)
- pupil-focused attention/help for the child (i.e. purpose of additional adult is to help children in general through getting more attention and encouragement)
- differentiation by ability or need (i.e. purpose is to support children with difficulties)
- the support teacher as lower-order professional (i.e. not the proper or real teacher, but there to watch or to get work experience)

Bowers (1997) additionally shows how the perceived role of additional adults varies with the age of children. Younger children tended to see the role as mainly about helping the teacher, whereas older children saw it as focused on pupils.

Both these categorisations of the TA role are similar to that explored in Loos *et al.* (1974).

##### 4.3.1.2 Impacts on teaching effectiveness

#### POTENTIAL FACILITATORS

Blatchford *et al.* (2001) report on teachers' positive perceptions of the impact of support staff on teaching. Specifically, TAs and other adults are seen to positively contribute in terms of increased teaching effectiveness and effective classroom management. The most common reason given by teachers for this greater effectiveness is the opportunity for pupils to work in smaller groups, while still being supported by an adult. There was also evidence of teachers' perceptions of enhanced curriculum provision, in terms of more opportunity for creative and practical activities. In addition, by taking administrative duties away from teachers, support staff reduced the burden of classroom management, leaving more opportunity for teachers to engage in 'actual teaching' (p 36).

**Table 4.10:** A summary of included studies on impact of support staff on teaching (N = 9 studies)

Paper	Overall quality (WoE D)	Type of study	Type of school	Focus of support	Area of impact
Blatchford <i>et al.</i> (2008)	High	Mixed	Primary	General	Curriculum Teaching methods
Bowers (1997)	Medium	Qualitative	Primary Secondary	Disability General	Stress
Butt and Lance (2005)	Medium	Mixed	Primary	General	Teaching methods
Cremin <i>et al.</i> (2005)	High	Mixed	Primary	General	Teaching methods
Giangreco <i>et al.</i> (2001)	High	Mixed	Primary and Secondary	General Disability	Teaching methods
Hemingsson <i>et al.</i> (2003)	High	Mixed	Primary and Secondary	Disability	Teaching methods
Lacey (2001)	Low	Qualitative	Primary and Secondary	Disability	Teaching methods
Loos <i>et al.</i> (1977)	Medium	Mixed	Primary	General	Teaching methods
Moyles and Suschitzky (1997a)	Medium	Mixed	Primary	General	Teaching methods
Moyles and Suschitzky (1997b)					

Cremin *et al.* (2005) aim to understand effective processes of collaboration between teachers and support staff. The focus is on three models of collaboration between teachers and support staff. Reflective teamwork involves greater communication and sharing of understanding, and led to more empowered TAs with greater insight and knowledge of learning processes, but was relatively demanding in terms of time. Zoning the classroom between the two adults felt 'natural' to teachers, and had the consequence that the teacher was able to spend more time working intensively with small groups of pupils. Room management had more of an administrative, than pedagogical, impact. Some evidence is provided that planning with TAs enabled teachers to focus more on needs of individual pupils, and to think more deeply about planning and adapted teaching following conversations with TA.

#### POTENTIAL BARRIERS

Two potential barriers to effective teaching are described in the literature; these are discussed below.

##### (1) Distancing the teacher from children, young people and parents

Giangreco *et al.* (2001) focus on how the practice of support affects teachers' engagement with children and young people with disabilities.

'General education classroom teachers were more engaged with students with disabilities when those students were supported by a programme-based paraprofessional. Conversely, classroom teachers were less engaged with students with disabilities when those students were supported by one-on-one paraprofessionals' (p 78). In effect, where TAs were seen as part of the class 'team', a resource to be deployed by the teacher, pupils with disabilities were not distanced from their teacher. However, TAs closely supporting an individual student placed a barrier between pupil and teacher. Depending on the relative experience and expertise of the teachers and TAs concerned in relation to (in particular) severe disabilities, this may at best mean that the pupil is not taught by a fully qualified teacher, and at worst that they are not taught at all but merely 'occupied' within a mainstream school classroom.

This potential distancing effect is also observed by Lacey (2001) where TAs are involved in direct support to individual pupils, and daily recording and writing in home-school diaries, rather than teachers. In this study, those who had the most direct contact with parents reported to them regarding the progress of the pupils that they support.

##### (2) Diluting the focus on learning

Moyles and Suschitzky (1997a, b) highlight another difficulty for teaching that can be created through

support. They express it in terms of the focus of attention: teachers work towards learning processes, whereas TAs focus heavily on the completion of children's activities. The result is that there is an additional emphasis on completion of activities in a classroom with support, potentially at the expense of skill growth. Even so, teachers felt 'supported' with a TA in the classroom and most of them wanted fulltime support. Moyles and Suschitzky (1997a, b) view the teachers in the study as experts who, however,

*often do not recognise their own skills and rarely articulate this higher level of understanding. The implications of this are that they expect CAs to understand almost intuitively the teaching role and therefore have expectations of them that CAs cannot fulfil. (p 24)*

This notion that effective teamwork requires something different from teachers is evident in the study by Butt and Lance (2005). 87% of teachers agreed that working with TAs allowed them to spend more time teaching, and, through the Pathfinder project, there was greater recognition of TA skills and the need to work more closely as a team. However, TAs taking responsibility for classes remained a contentious issue. Pupils interviewed suggested that TAs cover teacher absences, but do not take on all the responsibilities for teaching. Senior managers identify massive resistance around these changing roles, while recognising the need for teachers to be a 'leader of teams... with a part to play in the vision' (p 147), rather than solely having responsibility for an individual class.

#### 4.3.1.3 Summary

#### FINDINGS

Four high, four medium and one low quality study provided evidence on the impact of TAs on teaching.

Studies (one high, two medium quality) suggested that the impact of support staff on teaching practices varied enormously. In many cases, teaching was not substantially affected by the activity of the support staff, who provided back-up resources. In other cases, support staff were seen actively to facilitate teaching through their actions.

A high quality study reported teachers' perceptions that TAs enabled the implementation of a more 'active' curriculum, particularly in relation to creative and practical topics. Where they took on classroom management responsibilities, they enabled teaching to progress more smoothly.

Strategies, such as 'zoning' the classroom, were felt to be an intuitive approach to teamwork between teachers and support staff, and one that facilitated more small group and one-to-one teaching by that team (high quality study).

More intensive, one-to-one relationships between TAs and pupils were suggested to create a barrier between teachers and pupils with SEN in one high and one low quality study. Teaching for these pupils was sometimes impeded by the presence of support staff who inadvertently created a barrier between the teacher and the pupil.

There was some evidence (medium quality) to suggest that TAs' relatively strong focus on learning task completion diluted the focus on skill development in teaching.

#### PROCESSES

Support appears more effective when used by the class teacher as a resource to support pupils with disabilities within the classroom, rather than as an enabler for individual pupils.

There was some evidence that time for planning and discussion regarding the implementation of lessons enhances the teacher/TA relationship. Such discussions will potentially address the learning task focus issue highlighted above, in that TAs are alerted to the intended learning outcomes of lessons.

#### GAPS IN THE LITERATURE

Very few of the studies, with a focus on pupil impact or on the role of support staff, elaborate on the impact of support on teaching in any detail.

There is comparatively little research which attempts to describe and identify the processes through which support staff impact on teaching.

#### 4.3.2 Impact of support staff on teachers

Eight studies consider the impact of TA support on teachers. The literature comprised qualitative studies, or the qualitative part of mixed method studies. Findings were derived from interviews with TAs, teachers, pupils supported, or headteachers. The overall quality of these studies tended to be variable, as noted in Table 4.11.

Studies mainly reported on the impacts on the teachers' role in relation to targeted support for the education of children with disabilities generally, and more general support within particular sessions. The available information allowed synthesis along the themes postulated in the conceptual framework for the review. These are therefore used as subheadings in this section.

##### 4.3.2.1 Role

Two studies reported on targeted TA support to individual pupils with learning disabilities within mainstream classes and found a reduced role for teachers in the education of these pupils. Teacher impact was not a primary focus for either paper.

**Table 4.11:** A summary of included studies on impact of support staff on teachers (N = 8 studies)

Paper	Overall quality (WoE D)	Type of study	Type of school	Focus of support	Area of impact
Blatchford <i>et al.</i> (2006, 2007)	High	Mixed	Primary Secondary	Under-achievement General	Workload Stress Satisfaction
Blatchford <i>et al.</i> (2008)	High	Mixed	Primary Secondary	Under-achievement General	Role Workload Stress Satisfaction
Bowers (1997)	Medium	Qualitative	Primary Secondary	Disability General	Stress
Butt and Lance (2005)	Medium	Mixed	Primary	General	Workload Role
Cremin <i>et al.</i> (2005)	High	Mixed	Primary	General	Stress
Giangreco <i>et al.</i> (2001)	High	Mixed	Primary Secondary	General Disability	Role
Lacey (2001)	Low	Qualitative	Primary Secondary	Disability	Role
Moyles and Suschitzky (1997a) Moyles and Suschitzky (1997b)	Medium	Mixed	Primary	General	Stress Role

Lacey (2001) reported TA perceptions of their own impact in classrooms in England. She also reports comments from some TAs that they had been given responsibility for the learning of disabled pupils, with no input from teachers. These comments suggest that the presence of a TA, who knew the child well, allowed the teacher to delegate responsibility for the pupil's learning. Giangreco *et al.* (2001) provide some corroboration for this point of view in their research in the USA. They found that 'less engaged' teachers (that is, 'those who it appeared did not want to, thought they were not supposed to, or did not know how to include and teach pupils with disabilities') left the TA to be the primary instructor to the child they supported. As in the Lacey (2001) study, TAs were given responsibility for home-school communications. Again, the implication here is that the presence of the TA to support children with substantial disabilities allowed teachers to disregard the education of these children. Giangreco *et al.* (2001) conclude that these teachers 'relinquished their roles as teacher and classroom leader to one-on-one paraprofessionals'.

It is difficult to ascertain the extent to which this situation will pertain in mainstream schools at the present time. It must be appreciated that the studies above were undertaken prior to important legislation and policy initiatives for disabled children, such as the Special Education Needs and Disability Act 2001, the Disability Equality Duty (Disability Rights Commission, 2005) and Removing Barriers to Achievement (DfES, 2004). Such initiatives are likely to have had an impact on

practice; however, there was no literature post 2005 found for review on this issue.

In other studies, there was an indication that the teacher role might be becoming more 'managerial'. Senior management expressed the view that teachers are increasingly expected to take a whole school, rather than individual classroom, perspective (Butt and Lance, 2005). This more managerial role was confirmed in a study by Blatchford *et al.* (2008), who noted that teachers had acquired additional responsibilities for TA management. However, Moyles and Suschitzky (1997b) commented that none of the headteachers they interviewed had considered the expansion of teachers' roles into 'team management' as an issue to be covered and monitored through appraisal processes.

#### 4.3.2.2 Workload

Butt and Lance (2005) reported that 80% of teachers in their study agreed that working with a TA had reduced their workload. This was a large study, using data from the Pathway Project, which collected questionnaire data from more than 180 teachers. Blatchford *et al.* (2006/7) support this finding, with over half of teachers surveyed agreeing that their workload had reduced mainly as a result of additional administrative support. However, Blatchford *et al.* (2008) describes some increases in workload, reflecting the greater managerial responsibility noted above. It is unclear, therefore, whether this shift has left teachers better or worse off overall in terms of their workload.

#### 4.3.2.3 Satisfaction

Blatchford *et al.* (2006/7; 2008) report that teachers surveyed were overwhelmingly positive about the impact of classroom-based support staff on their job satisfaction. This stemmed from the benefits of having a good working relationship with another adult, and secondary impacts of reduced workload and stress levels. Teachers felt that the additional support enabled pupils to have increased levels of attention, or achieve more, which increased their own job satisfaction. Conversely, where teachers were dissatisfied, conversely, this related to poor working relationships with a person who was not well trained, or lacked initiative. In such circumstances, the teacher's workload was arguably increased due to the management of the additional adult in the classroom.

#### 4.3.2.4 Stress

A large study by Moyles and Suschitzky (1997a, b) described a number of teacher outcomes. Teachers reported 'feeling supported' with a TA presence in the classroom. This was corroborated by headteachers, who reported that teachers were 'less stressed' when they had the support of a TA. Where a TA had undertaken training to become a senior or higher level TA, heads commented that their ability to take over some activities - such as preparation of resources - enabled teachers to undertake a wider role within the school. Blatchford *et al.* (2006/7) also report that up to 62% of teachers surveyed felt that their stress levels had decreased as a result of the assistance from support staff. This finding on reduced levels of stress was repeated in a later study by Blatchford *et al.* (2008).

A further study (Cremin *et al.*, 2005) reported that where support across groups of children was evenly distributed across teachers and support staff (zoning), they felt less stressed. They described a class in which this regime led to shared support to a group of less able children who were not always willing to co-operate, which had a positive impact on stress levels. The 'reflective teamwork' model forced quality listening time between the teacher and the TA, which they reported strengthened their relationship.

A study of pupils' perspectives suggested that the TAs helped the teachers by enabling them to cope in the classroom. Responses suggested that they perceived that their teachers could not manage either the number or behaviour of the children as well on their own (Bowers, 1997).

#### 4.3.2.5 Summary

##### FINDINGS

The literature identifying impacts on teachers comprised four high, three medium and one low quality study. Evidence from one high and two

medium quality studies suggests that one impact of support staff has been for a shift in the teacher's role towards more managerial responsibilities.

Two studies (pre SENDA 2001), one high and one low quality, suggest that individual support to pupils with disabilities may hinder teachers in assuming a full role in relation to the education of these children.

There is a perception on the part of teachers, reported in one medium and two high quality studies, that TAs have reduced their workload. While much of this has been due to the removal of clerical tasks to administrative staff (high quality study), classroom-based TAs have also contributed towards this impact (high quality study).

There is some evidence, from three high and one medium quality studies, that the presence of motivated support staff increases satisfaction, and reduces stress levels of teachers in mainstream classrooms.

The additional support, perceived by teachers to have a positive impact on pupils' learning experiences and progress, was also noted to have an effect in increasing the teachers' job satisfaction (two high quality studies).

##### PROCESSES

Arguably, support with workload relieves some of the stresses experienced by teachers. The above studies hint that these relate to both preparatory tasks, and to even the distribution of responsibility for support for cooperative and uncooperative groups of pupils.

The study by Blatchford *et al.* (2008) provided the best source for elaboration on the processes that lead to positive impacts for teachers. As noted above, these stem from good working relationships. Particular personal attributes that teachers highlighted were connected to a positive outlook on the part of support staff, both as individuals and in their approach to providing support in the classroom.

##### GAPS IN THE LITERATURE

The impact of support staff on teachers is not a well researched field. Although eight publications provided information to support this aspect of the review, impact on teachers was not the sole focus in any. Indeed, reporting on this impact was confined in some instances to almost 'throw away' comments made in the course of gathering views on related classroom-based impacts of support staff on pupils.

**Table 4.12:** A summary of included studies on impact of support staff on school climate (N = 6 studies)

Paper	Overall quality (WoE D)	Type of study	Type of school	Focus of support	Area of impact
Cremin <i>et al.</i> (2005)	High	Mixed	Primary	General	Ethos
Giangreco <i>et al.</i> (2001)	High	Mixed	Primary Secondary	General Disability	Ethos Parental engagement
Lacey (2001)	Low	Qualitative	Primary Secondary	Disability	Parental engagement
Loos <i>et al.</i> (1977)	Medium	Mixed	Primary	General	Ethos
Tews and Lupart (2008)	Medium	Qualitative	Primary Secondary	Disability	Ethos
Woolfson and Truswell (2005)	Medium	Mixed	Primary	General	Parental engagement

### 4.3.3 Impact of support staff on school climate

Six studies report findings that reflect on the impact of TA support on school climate. The studies synthesised in this chapter of the review - comprising three high, three medium and one low quality studies - varied widely in quality. However, none of these studies is 'about' school climate. Nevertheless, studies focused on other purposes have derived some implications for aspects of school climate. The literature is therefore synthesised in relation to these sub-themes, but considered of 'low quality' for this purpose because the issues are a by-product of research focused elsewhere. The studies are listed in the table below

#### 4.3.3.1 Ethos

Giangreco *et al.* (2001) noted that, where TAs worked in a one-to-one fashion with disabled pupils, their teachers appeared less engaged in their teaching and in routine communications with their family. This suggests the classroom environment reflected an ethos of 'integration' in the setting, rather than inclusion among peers. However, where TAs were deployed in a 'program-based' fashion, teachers used them to provide additional support as they saw fit. They were comfortable declining support they felt was unnecessary. Giangreco *et al.* (2001) report that these teachers interacted equally with pupils with and without disabilities in instructional periods.

Three different classroom arrangements that involved teacher/TA team approaches to teaching were tested by Cremin *et al.* (2005). This study used observations of on-task behaviour (see Appendix 4.2 for details). Comments from interviews with teachers and TAs supported the observational data. In terms of climate, comments suggested that 'zoning' allowed less able children to be better included within the class, rather than being seen as

a separate, supported group because all pupils were receiving small group support.

Students in the Tews and Lupart (2008) study made a number of comments that suggested that support from TAs engendered an 'inclusive' environment in the classroom and for some in the playground. Inclusion was made possible by facilitation, as reflected elsewhere in this report, by TAs who mediated between student and learning tasks, as well as between student and their peers.

#### 4.3.3.2 Parental engagement

Three papers included descriptions of the impact of TA support on parental engagement levels. None was entirely clear on the extent of such impacts across schools involved in the research.

Lacey (2001) reported enhanced parental engagement levels as a consequence of TA support to children with severe disabilities. The TAs interviewed were in regular contact with parents. Their role included daily feedback on the child's activities and, where there was direct contact, a report on the progress of inclusion. It was unclear in the paper whether this was the case for all TAs interviewed. However, this issue is confirmed in a study by Giangreco *et al.* (2001), which also found that 'less engaged' teachers, that is those whose TA worked on a one-to-one basis with a pupil with disabilities, tended to defer communication with parents to their TA.

Another study (Woolfson and Truswell, 2005) described perceptions of impact of general support provided by TAs on school climate, in addition to other review foci. In particular, improved parental engagement is noted. Details of this engagement are not clearly described; however, the paper notes that TAs 'encouraged parents to be more involved in their child's learning'; they were more accessible to parents and that they operated parent workshops (for example, in mathematics). While these

activities suggest greater involvement with parents in school, no specific examples of impacts of these activities were described.

The papers highlighting this issue suggest that TAs may be regarded as 'more accessible' than the class teacher. However, the full meaning of this is not entirely clear. For example, this could mean that they are regarded as being less busy, and therefore literally more available, or, that they are 'socially' more like the parents than the pupils' teacher and therefore easier to relate to on a one-to-one level. Certainly, where TAs run academic skills workshops (as suggested above) that are taken up by parents, a stronger and closer link with parents may be forged.

#### 4.3.3.3 Summary

The findings are tentative (see note above on quality). The literature in this area is scant and the issues highlighted have been taken from studies whose main focus was elsewhere; hence the quality of data on which they are based is low. However, it was considered important to include whatever information could be gleaned on the impact of support staff on school climate. Below study quality ratings for their main themes are reported.

#### FINDINGS

Two high, three medium and one low quality study provided some evidence on issues of school climate.

Two high and one medium quality study offered some evidence that TA input appeared to generate a more inclusive ethos. Using teacher/TA teamwork to support small groups within whole class activities was seen by researchers and TAs to promote a 'more inclusive' ethos in two high quality studies. Children with learning difficulties were not singled out as being in receipt of 'special' attention using this approach. This was also reflected in a study (medium quality) that reported comments from pupils with learning difficulties themselves. They suggested that TAs facilitated their inclusion in mainstream classes.

There was some evidence (in one high and one low quality study) that TAs could have a role in promoting parental engagement in school, both in relation to their child's daily activities and, where appropriate, in developing their own numeracy skills.

#### PROCESSES

Where the teacher and support staff work as a team targeting support towards small groups of pupils, all pupils receive support to some degree. The more intensive level of support provided to those with particular learning needs may not then be regarded as 'special' or humiliating. Learning support is perceived as normal practice.

The literature suggests a role for support staff as intermediary between the teacher and parents, particularly those who have sons or daughters with severe learning difficulties.

#### GAPS IN THE LITERATURE

There were no primary sources of literature on the impact of support staff on school climate. Those impacts reported above were derived from data reported for other purposes. For this reason, they could have been just as easily excluded as included in this review. However, it was considered important to report them tentatively as an indication of what these impacts are likely to be.

The data reviewed above suggests that there may be significant impacts of this type worthy of the focus of research initiatives.

### 4.4 In-depth review: quality-assurance results

The thematic approach taken to review ensured that the majority of publications were reviewed in depth by two or more reviewers. This enabled a detailed discussion of the publications to be undertaken to ensure a common view of the nature of the particular study and interpretation of findings. In this way, the four reviewers were able to align their understandings in relation to terminology, methods and findings.

### 4.5 Summary of results of synthesis

The review sought evidence on the impact of support staff on pupils and mainstream schools. Support staff were defined as adults performing teaching assistant or equivalent roles in mainstream schools - in this report, referred to as 'teaching assistants' (TAs). Impacts were defined as pupil impacts (participation, academic or social/emotional) or school impacts (teaching, teacher, climate). The findings from 19 high, 14 medium and 2 low quality studies are summarised in the points below.

#### 4.5.1 Pupil impacts

##### 4.5.1.1 Participation

The findings in relation to TA impacts on participation of pupils with SEN present a mixed picture. Fourteen studies were identified, including six high, six medium and two low quality studies. Of the 14 studies, seven (two high and five medium quality) reported a negative impact where over reliance on TA support, or too much support, hindered pupil interaction with peers and teachers, undermined opportunities for self-determination, or led to pupils feeling stigmatised.

Four studies (two high and two low quality) suggested that TAs had a positive impact on pupils

with SEN in relation to maintaining engagement in academic activities, and where appropriately trained in supporting communication with peers. Two studies reported mixed findings, which supported those summarised above. One study reported a 'neutral' finding. TA support to pupils with autistic spectrum disorders did not improve or interfere with pupils' interactions with teachers.

Five studies (two high and three medium quality) reported on the impact of TAs on participation of all pupils and four of these presented a positive view. The presence of TAs in a mainstream classroom was found to help pupils engage in academic tasks and activities. One high quality study reported mixed findings, supporting the above conclusion in relation to engagement in learning, but suggesting that, where support was focused more intensely, this could have a negative effect on interaction with the teacher.

#### 4.5.1.2 Academic

Seven of eight high quality studies on targeted support for literacy to individuals or small groups suggested that trained and supported TAs had a positive impact on pupils' progress. The remaining study reported mixed findings, with improvements in reading enhanced in those year groups where reading is emphasised.

Only two studies, also of high quality, addressed targeted support for numeracy; one of these found no impact on numeracy skills, while the other found mixed evidence. The former adopted a notably different approach from that described in studies on literacy support, which might account for this finding. The latter study found positive impacts only in year groups where skill development in numeracy was emphasised.

One further high quality study evaluated the effectiveness of a language intervention and found a positive impact of suitably trained speech and language TAs on language skills.

Two studies on targeted support (both high quality) and three on general support (two high and one medium quality) reported positive perceptions on the part of teachers, parents/carers and pupils themselves regarding the impact of TAs on academic development.

#### 4.5.1.3 Social/emotional

Four of the six studies reviewed (one high and three medium quality) reported positive impacts of TA support on psychosocial development. The two remaining studies (one high and one medium quality) presented mixed findings. There was a general perception on the part of teachers, parents and pupils with learning difficulties that TAs can promote social and emotional development in children. However, perceptions of pupils with learning disabilities suggested that they recalled

developing friendships with their TAs rather than with their peers.

One medium quality study also found that TAs were not successful in undertaking therapeutic tasks aimed at supporting children with emotional and behaviour problems. It was suggested that the intervention may have been too brief to be effective.

#### 4.5.1.4 Processes supporting positive pupil impacts

TAs appear effective where trained and supported to deliver specific interventions to individuals or small groups. However, the intervention itself should be robust: that is, for example, delivered appropriately and implemented over a sufficient period of time to have an effect.

Support to individuals needs to be finely tuned to their needs to provide sufficient support with learning or communication as necessary, but to promote pupil self-determination and social interaction wherever possible. Support for participation therefore requires TAs to be acutely aware of the individual needs of the pupils they are supporting and to make finely balanced judgements as to the possible impact of their presence in encouraging/discouraging learning and participation.

The type of balanced TA support suggested above can provide supported pupils with experiences that enhance or improve their self-esteem or confidence, and may impact on behavioural issues.

### 4.5.2 School impacts

#### 4.5.2.1 Teaching

Use of TA support allows teachers to engage pupils in more creative and practical activities.

Teaching with the support of a TA allows the teacher to spend more time working with small groups or individuals.

#### 4.5.2.2 Teachers

The literature identifying impacts on teachers comprised four high, three medium and one low quality study. Evidence from one high and two medium quality studies suggests that one impact of support staff has been for a shift in the teacher's role towards more managerial responsibilities.

Two studies (pre SENDA 2001), one high and one low quality, suggest that individual support to pupils with disabilities may hinder teachers in assuming a full role in relation to the education of these children.

There is a perception on the part of teachers, reported in one medium and two high quality studies, that TAs have reduced their workload.

While much of this has been due to the removal of clerical tasks to administrative staff (high quality study), classroom-based TAs have also contributed towards this impact (high quality study).

There is some evidence, from three high and one medium quality studies, that the presence of motivated support staff increases satisfaction, and reduces stress levels of teachers in mainstream classrooms.

The additional support, perceived by teachers to have a positive impact on pupil's learning experiences and progress, was also noted to have an effect in increasing teacher's job satisfaction (two high quality studies).

#### 4.5.2.3 *Climate*

Two high, three medium and one low quality study provided some evidence on issues of school climate.

Two high and one medium quality study offered some evidence that TA input appeared to generate a more inclusive ethos. Using teacher/TA teamwork to support small groups within whole class activities was seen by researchers and TAs to promote a 'more inclusive' ethos in two high quality studies. Children with learning difficulties were not singled out as being in receipt of 'special' attention using this approach. This was also reflected in a study (medium quality) that reported comments from pupils with learning difficulties themselves. They suggested that TAs facilitated their inclusion in mainstream classes.

There was some evidence (in one high and one low quality study) that TAs could have a role in promoting parental engagement in school, both in relation to their child's daily activities and, where appropriate, in developing their own numeracy skills.

#### 4.5.2.4 *Processes supporting positive school impacts*

Support appears more effective when incorporated into a 'team teaching' approach, where the TA is used as a resource to support individuals or groups within the classroom. Planning and evaluation within 'team' meetings act to improve facilitation for pupils and enhances the teacher/TA relationship.

Assistance from TAs in providing some of the support to less cooperative individuals or groups of children helps to reduce teacher stress levels.

Using a team approach to supporting small groups of children within the class as a whole can make the support to children who are underachieving or who have disabilities, part of routine teaching practice with all children, and hence less stigmatising.

TAs can provide a useful link with parents, through informal or routine contacts, to promote their engagement in school and learning.

### 4.5.3 *Gaps in the literature*

Any review can only represent the literature identified within the timeframe for the work, seen through the values and experiences of those conducting the review. The value of systematic review such as this is the transparency with which the evidence is presented, allowing the reader to evaluate the processes that have led to the synthesis of literature. In this review, there were a number of significant 'gaps' in the literature, as defined by this Review Group. These gaps are detailed below.

#### 4.5.3.1 *Pupil impacts*

##### ACADEMIC

The strongest evidence available in relation to pupil outcomes concerned progress in literacy for children who are underachieving. There is therefore a lack of evidence of the impact of TA support on the wider curriculum, and on normally developing children.

##### PARTICIPATION

There was a dearth of information on the impact of TAs on curriculum adaptation. As this is arguably a major role for TAs, particularly in relation to pupils with SEN, more research on the impact of TAs in this area is required.

##### SOCIAL/EMOTIONAL

The literature on the impact of TAs on social and emotional development was very small. Despite some indication in the literature that a consequence of some of the 'academic' support for pupils impacted on social and emotional development, in the view of parents or teachers, there was no substantive appraisal of the impacts of TA support in relation to pupils' self-esteem or confidence, their relationships with others or regulating their emotions.

#### 4.5.3.2 *School impacts*

##### TEACHING

Although a number of studies were identified in relation to impacts on teaching, none provided detailed analysis of the mechanisms involved. In order to disseminate good practice, it is important that such studies should include details of how outcomes were achieved in addition to measures of their benefit.

## TEACHERS

The impact of TA support on teachers is not a primary focus of research in much of the wider literature at the present time. While the work of Blatchford *et al.* (2001-2008) has made important inroads here, additional direct research is needed on the mechanisms of TA support that impact on and have implications for role, workload, satisfaction and stress, to ensure that teacher training, career paths and support can be appropriately configured.

## LEADERSHIP

No research was identified on the impact of TA support on school leadership. In the conceptualisation for this review, it was conceived that additional numbers of staff in mainstream schools and the implications for management of this wider workforce would have emerged in the literature. That the Review Group identified none at all, despite exhaustive searches, suggests that this has not yet surfaced as an issue within the research community, if not within schools themselves.

## CLIMATE

The impact of TAs on school climate is not a current focus for research, despite a high profile in educational discourses. This appears a significant oversight.

The points above summarise the key findings from the review. Echoes of these issues are discussed elsewhere in the literature (see for example Giangreco *et al.*, 2005). The Review Group therefore concludes that, although many of these findings are not new, nevertheless, bringing them together in the form of this review may be helpful to the wider audience with an interest in promoting personalised learning to pupils, effective teaching practice and an empowered workforce.

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## CHAPTER FIVE

# Implications

This section discusses the strengths and limitations of the review and points to the implications to be drawn from this body of literature for policy, practice and research audiences.

### 5.1 Strengths and limitations of this systematic review

Any research in the field of education practice needs to respond to a range of complex challenges. School contexts are constantly evolving in response to changing legislation and policy guidance. Hence, against this backdrop of competing priorities, it is not always possible to conduct rigorous definitive studies. The literature reviewed here reflects this issue. Traditional experimental studies were, for the most part, employed in relation to academic outcomes for pupils, although some were apparent in relation to the participation (engagement) of pupils in their classwork; these were, on the whole, of high quality. The rigour of the qualitative studies was much more variable, although some were also rated overall as being of ‘high weight of evidence’ (WoE D). Many of the remaining studies were not rated as highly in relation to their overall quality; however, in most cases there was a consistent message which permeated the findings and therefore added credibility to the overall conclusions.

The main data was obtained from UK and US studies. This may reflect the surge in use of TAs in these countries, not apparent in other countries in the world. However, the members of the Review Group were surprised not to find relevant studies from Australia where the use of TAs is also common. It is unlikely that the database searches missed Australian studies; however, as with any review, it must be acknowledged that this review synthesises the literature which the reviewers were able to find and collect within the short timeframe for the work.

The majority of studies were based in primary schools, so the findings ostensibly have more limited relevance for TA impacts in secondary schools. Nevertheless, many of the issues highlighted are likely to have equal importance for secondary

schools, and, in terms of peer interactions among young people, these are arguably likely to be amplified. Studies were generally focused on the impact of TAs on students who were underachieving or who had a disability. It was also clear that the impact of support staff on school leadership has not, so far, been a focus of research. Nor was the unpaid voluntary support provided within schools a particular focus. A single study was identified and clearly did not provide a sufficient ‘body’ of knowledge for this review.

Particular strengths of the review were the wide ranging literature searching strategies, and the extensive collaboration among the four reviewers. Co-location, within the same institution, was key in this ongoing contact; it allowed the reviewers to consider the emerging literature with a clear vision of the parameters within which it was set.

### 5.2 Implications

The findings of this review complement and add further depth to the findings of the earlier review on the impact of paid adult support on pupils (Howes *et al.*, 2003). In addition, it provides evidence on the wider impact of support staff on aspects of schools themselves. The main implications of the review for policy, practice and research are described below.

#### 5.2.1 Policy

##### *Pupils*

The studies reviewed here suggest that TAs play an important role in supporting policy initiatives as they are rolled out across mainstream schools. Well trained and supported TAs can effectively support the learning and participation of pupils at the whole group level, in small intervention groups, and on a one-to-one basis where necessary, working with

normally developing children, those with learning difficulties, and those with the most complex disabilities. This finding, therefore, has implications for policy on TA deployment, which needs to promote and require effective programmes for this group to enable them to support pupils with a wide range of abilities appropriately and in the full range of learning interactions (1:1, small group and whole group).

### *Schools*

Policy driving the deployment of the TA workforce has been successful in providing support for teachers on a number of levels and in delivering benefits to pupils. To enhance emerging TA impacts, it is necessary for policy to promote effective management, training and mentoring of these staff in clearly delineated roles.

Within teacher training policy, it is important to communicate the nature of the collaborative working required if TA support is to be employed to its best effect. Teachers need to be appropriately trained in team working approaches during initial or postgraduate training programmes. This includes, for example, teachers acknowledging the knowledge and important perspective that TAs bring on pupils and their responses to classroom activities. It will be important to monitor the ongoing effect of the emphasis now given to collaborative working in professional standards for teachers.

### **5.2.2 Practice**

#### *Pupils*

Findings suggest that, where properly trained and supported, TAs can have a positive impact on pupil progress. It was clear, however, that progress was more marked when TAs supported pupils in discrete well defined areas of work on particular aspects of learning. There is therefore a strong case for the deployment of well trained TAs to support pupils (individually or in groups), in collaboration with the class teacher. The evidence reported here suggested that support for literacy may be a particularly productive area.

As in the earlier review on support staff, the findings suggest that support to individual pupils should be combined with supported group work that facilitates all pupils' participation in class activities. The implication here is that TAs should not, normally, work on an exclusively 1:1 basis with pupils. Pupils with particular learning needs may require this type of support at times, but their learning and participation are facilitated where this is kept to a minimum and provided within the context of support to groups.

#### *Schools*

Similarly this, and the earlier review, found evidence emphasising the importance of allocated time for

teachers and TAs to plan programmes of work. It is important that, in this way, support is embedded as 'standard' school practice to overcome notions of 'difference' engendered in the past by provision of support to pupils with SEN.

Where TAs are used to support participation in the classroom, TAs and teachers need to work as a team, with the type and extent of support provided being planned on an individual basis. TAs should be deployed as part of the class teacher's wider strategy for achievement of learning objectives across the whole class, and not assigned exclusively to a particular individual.

Within the school environment, TAs are more effective if they are part of the staff team, where their contribution to whole school decision-making is valued, and where the complementary roles of teachers and TAs are more clearly delineated to the benefit of these professionals, parents and pupils alike.

### **5.2.3 Research**

As noted above, the literature included in this review employed a wide range of methodologies and was of variable quality. Those studies with unacceptably poor methodologies were excluded from the review, while more moderately rigorous studies were included. The Review Group acknowledges that the challenges of conducting rigorous research within service settings, such as schools, will continue to be an issue. However, an accumulation of modest studies supporting a particular finding over time will lend strength to issues that are particularly difficult to capture in school-based educational research.

It was evident, however, that the research literature was not evenly spread across the areas considered important for this review. Those areas that are in need of additional research attention are highlighted below.

#### *Pupils*

Although there was a considerable literature on the impact of TAs on progress in literacy for children who were underachieving in this area, there was little on their impacts on wider academic achievements. This is a potential area for further research, bearing in mind the finding that support with discrete areas of the curriculum by specifically trained TAs appears to have the greatest impact.

No substantive literature was found on the impact of TAs on adapting the curriculum to make it more accessible to pupils. With increasing numbers of children with disabilities included in mainstream schools, TAs are likely to have some role in adapting learning materials to making learning activities accessible. In addition, in relation to those with complex disabilities, differentiation between TA support for physical access (physical and medical

needs) and TA support for learning requires disentangling. Research on this role is therefore needed.

Similarly, few studies addressed the impact of TAs on the psychosocial adjustment of pupils. With the emphasis on resistance to exclusionary pressures in relation to children with emotional and behavioural disorders, the role of TAs in supporting this aspect of the curriculum is an under-researched issue, and worthy of more attention.

### *Schools*

Although a limited amount of literature was reviewed concerning the impact of TAs on teaching, the studies identified did not elaborate on the impacts in any detail. More often, these 'impacts' were incorporated into studies where the main focus was on pupils. Research, in the form of ethnographic or detailed case studies, is therefore required specifically focused on the impact of TAs on teaching in mainstream classrooms, so that effective practice is understood and can be adopted more widely.

Similarly, there is little specific research on the processes whereby TAs impact positively on teachers. The message that teachers want and appreciate support from TAs is clear, but the mechanisms operating to maximise benefits to teachers have not been extensively explored.

Notions of 'climate' are prevalent in discourses on schools. The atmosphere of any school clearly impacts on those who work or study within its walls; however, research that specifically addresses 'climate' is absent from the literature. The few studies included for review under this theme mentioned aspects of 'climate', without engaging in an exploration of the wider implications of identified aspects, such as 'inclusive' classrooms or 'parental engagement' in school or their child's learning. There is therefore enormous potential for further research in relation to these issues.

Particularly conspicuous by its absence was literature on the impact of support staff on leadership within schools. Given the rapid and relatively recent rise in the numbers of TAs working in schools, the Review Group had expected to find some literature on the impact of this development on the leadership and management structure in schools, particularly secondary schools. As some schools have now promoted TAs to become non-teaching special educational needs co-ordinators (SENCOs), this is also an area in which the Review Group expected to find some research. There is, therefore, a good deal of room for research into these issues.

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## CHAPTER SIX

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### 6.1 Studies included in map and synthesis

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## Appendix 1.1: Authorship of this report

This work is a report of a systematic review conducted by the Educational Support and Inclusion Group.

The authors of this report are:

Alison Alborz (University of Manchester)  
Diana Pearson (University of Manchester)  
Peter Farrell (University of Manchester)  
Andy Howes (University of Manchester)

They conducted the review with the benefit of active participation from the members of the review group.

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## **Review Group**

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Diana Pearson, University of Manchester

Peter Farrell, University of Manchester

Andy Howes, University of Manchester

## **Conflicts of interest**

There were no conflicts of interest.

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## Appendix 1.2: National and international experts responding to contacts

Contact	Supplied
Jim Boyle, University of Strathclyde	Report
Graham Butt, Birmingham University	1 ref; 2 contacts
Michael Giangreco, University of Vermont	Weblinks
Helen Gunter, University of Manchester	3 Contacts
Tommy MacKay, Psychology Consulting Services, Cardross, Dumbartonshire	2 Refs; 1 contact
Jim Pugh, Staffordshire University	4 reports/ publications
Gary Thomas, Birmingham University	2 Refs

## Appendix 2.1: Inclusion and exclusion criteria

	Inclusion	Exclusion
Review period	No date - 30 April 2008	N/A
National/ international scope	English language	Non-English language
Type of data	Empirical	Personal views Training initiatives Best practice accounts Methodology - not reported - incoherent - unsystematic
Age range	Pre-school and compulsory schooling (3-16 years)	Further education Higher education
School type	Mainstream	Special schools Other 'alternative' or non-traditional educational establishments
Adult support	Paid and unpaid adults who provide support in school - unpaid support being structured or regular in form and imparting the particular expertise, or 'quality' of the adult concerned; support may be direct or indirect, general or targeted	Parent volunteers Paid support workers whose role is primarily undertaken away from the school premises Professionals, such as educational psychologists or support 'teachers' with particular expertise
Impact - Pupils - School	On participation (attendance, engagement), academic learning (progress/ advancement) Social and emotional adjustment (self-esteem, relationships) On one or more aspects of the school	On school budgets On support worker/ teacher career

## Appendix 2.2: Search strategy for electronic databases

BEI

ERIC

Expanded Academic ASAP

IBSS

PsycInfo

Social Sciences Citation Index (ISI Web of Science)

Sociological Abstracts

TESOL Quarterly

Zetoc: Electronic Table of Contents

*Overall strategy*

### ***Pupil impact***

Or pupil attainment	<i>And pupil mentoring</i>
Or pupil achievement	<i>And mentors</i>
Or pupil participation	<i>And school mentors</i>
Or pupil engagement	<i>And special support assistants</i>
Or pupil behaviour	<i>And support staff</i>
Or pupil outcomes	<i>And support assistants</i>
Or pupil self-esteem	<i>And paraprofessional</i>
Or pupil learning	<i>And paraprofessional personnel</i>
Or pupil attendance	<i>And teaching assistants</i>
Or pupil aspiration	<i>And teaching aides</i>
Or pupil progress	<i>And teacher aides</i>
Or pupil confidence	<i>And facilitator</i>
Or pupil voice	<i>And hearing support</i>
Or pupil development	<i>And behaviour support</i>

Or pupil independence	<i>And general assistant</i>
Or pupil choice	<i>And companions</i>
Or pupil perceptions	<i>And assistant educators</i>
Or pupil relationships	<i>And personal educator</i>
Or pupil interactions	<i>And support worker</i>
Or peer interactions	<i>And voluntary helper</i>
Or pupil assessment	<i>And volunteer</i>
<i>And support staff</i>	<i>And meal-time assistant</i>
<i>And classroom assistants</i>	<i>And school nurse</i>
<i>And learning support assistants</i>	<i>And community nurse</i>
<i>And support assistants</i>	<i>And early literacy support</i>
<i>And learning mentors</i>	<i>And pastoral support</i>
<i>And mentoring support</i>	<i>And literacy support</i>
<i>And non-teaching staff</i>	<i>And cover supervisor</i>
<i>And school support staff</i>	<i>And curriculum support</i>
<i>And instructional aides</i>	<i>And personalised learning</i>
<i>And pedagogues</i>	<i>And special educational needs support</i>
<i>And paraeducator</i>	<i>And SEN support</i>
<i>And pupil support staff</i>	<i>And EAL support</i>
<i>And interventions</i>	<i>And supportive environment</i>

### **School impact**

Or school outcomes	<i>And learning mentors</i>
Or school ethos	<i>And mentoring support</i>
Or school cohesion	<i>And pupil mentoring</i>
Or school climate	<i>And mentors</i>
Or school perception	<i>And school mentors</i>
Or school status	<i>And special support assistants</i>
Or school leadership	<i>And support staff</i>
Or staff role	<i>And support assistants</i>
Or teacher role	<i>And paraprofessional</i>
Or staff workload	<i>And paraprofessional personnel</i>
Or teacher workload	<i>And teaching assistants</i>
Or teacher stress	<i>And teaching aides</i>
Or teaching methods	<i>And teacher aides</i>
Or teacher assessment	<i>And facilitator</i>
Or school community	<i>And hearing support</i>
Or curriculum access	<i>And behaviour support</i>
Or social access	<i>And general assistant</i>
Or inclusion	<i>And companions</i>
Or social inclusion	<i>And assistant educators</i>
Or inclusive curriculum	<i>And personal educator</i>
Or targeted intervention	<i>And support worker</i>
Or mainstream inclusion	<i>And voluntary helper</i>
Or learning outcomes	<i>And volunteer</i>
Or social skills	<i>And meal-time assistant</i>

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<i>Or parent perceptions</i>	<i>And school nurse</i>
<i>Or community perceptions</i>	<i>And community nurse</i>
<i>Or league tables</i>	<i>And early literacy support</i>
<i>And support staff</i>	<i>And pastoral support</i>
<i>And classroom assistants</i>	<i>And literacy support</i>
<i>And learning support assistants</i>	<i>And non-teaching staff</i>
<i>And support assistants</i>	<i>And school support staff</i>
<i>And instructional aides</i>	
<i>And pedagogues</i>	
<i>And paraeducator</i>	
<i>And pupil support staff</i>	
<i>And interventions</i>	
<i>And cover supervisor</i>	
<i>And curriculum support</i>	
<i>And personalised learning</i>	
<i>And special educational needs support</i>	
<i>And SEN support</i>	
<i>And EAL support</i>	
<i>And supportive environment</i>	

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## Appendix 2.3: EPPI-Centre keyword sheet, including review-specific keywords

### ***General keywords***

#### *1 Identification of report*

- 1.1 Citation
- 1.2 Contact
- 1.3 Handsearch
- 1.4 Unknown
- 1.5 Electronic database

#### *2 Status*

- 2.1 Published
- 2.2 In press
- 2.3 Unpublished

#### *3 Linked reports*

- 3.1 Not linked
- 3.2 Linked (details - identifier)

#### *4 Language (Please specify.)*

- 4.1 Details

#### *5 In which country/countries was the study carried out?*

- 5.1 Details

*6 What is/are the topic focus/foci of the study?*

- 6.1 Assessment
- 6.2 Classroom management
- 6.3 Curriculum
- 6.4 Equal opportunities
- 6.5 Methodology
- 6.6 Organisation and management
- 6.7 Policy
- 6.8 Teacher careers
- 6.9 Teaching and learning
- 6.10 Other topic focus

*7 Curriculum*

- 7.1 Art
- 7.2 Business Studies
- 7.3 Citizenship
- 7.4 Cross-curricular
- 7.5 Design and Technology
- 7.6 Environment
- 7.7 General
- 7.8 Geography
- 7.9 Hidden
- 7.10 History
- 7.11 ICT
- 7.12 Literacy - first language
- 7.13 Literacy further languages
- 7.14 Literature
- 7.15 Mathematics
- 7.16 Music
- 7.17 PSE
- 7.18 Physical Education
- 7.19 Religious Education
- 7.20 Science

7.21 Vocational

7.22 Other curriculum

*8 Programme name (Please specify.)*

8.1 Details

*9 What is/are the population focus/foci of the study?*

9.1 Learners

9.2 Senior management

9.3 Teaching staff

9.4 Non-teaching staff

9.5 Other education practitioners

9.6 Government

9.7 Local education authority officers

9.8 Parents

9.9 Governors

9.10 Other population focus

*10 Age of learners (years)*

10.1 0-4

10.2 5-10

10.3 11-16

10.4 17-20

10.5 21 and over

*11 Sex of learners*

11.1 Female only

11.2 Male only

11.3 Mixed sex

*12 What is/are the educational setting(s) of the study?*

12.1 Community centre

12.2 Correctional institution

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- 12.3 Government department
- 12.4 Higher education institution
- 12.5 Home
- 12.6 Independent school
- 12.7 Local education authority
- 12.8 Nursery school
- 12.9 Post-compulsory education institution
- 12.10 Primary school
- 12.11 Pupil referral unit
- 12.12 Residential school
- 12.13 Secondary school
- 12.14 Special needs school
- 12.15 Workplace
- 12.16 Other educational setting

### *13 Which type(s) of study does this report describe?*

- 13.1 Description
- 13.2 Exploration of relationships
- 13.3 Evaluation
- 13.4 Evaluation: naturally occurring
- 13.5 Evaluation: researcher-manipulated
- 13.6 Methodology
- 13.7 Review
- 13.8 Review: systematic review
- 13.9 Review: other review

### *14 Have keywords been applied in all categories (1 - 10) and reason why (e.g. no information in text)?*

- 14.1 Yes
- 14.2 No (*Please specify.*)

### *Review-specific keywords*

#### *16 Pupil focus (intended beneficiaries of support)*

*The use of these categories reflects current conceptualisation in much of the literature, and the revised*

*SEN Code of Practice.*

16.1 **Under-achievement:** for example, including ethnic minority under-achievement, boys, girls, etc., pupils who are still learning English as an additional language, gifted and talented pupils

16.2 **Behaviour:** for example, behaviour, emotional and social

16.3 **Disability:** pupils whose disability gives rise to a need for support (e.g. physical and sensory, including epilepsy; communication and interaction, especially specific language disorders; cognition and learning, i.e. dyslexia, MLD/ SLD)

16.4 **General:** pupils who benefit from additional support not as through any particular characteristic or experience

16.5 **Not clear**

*17 Data on impact*

17.1 National tests

17.2 Group tests

17.3 Individual assessment

17.4 Personality tests

17.5 Teacher rating scales

17.6 Classroom observation

17.7 Sociometric data

17.8 Pupil records

17.9 Not clear

*18 Data provided by*

18.1 Teachers

18.2 Support staff

18.3 School leadership

18.4 Governors

18.5 Parents

18.6 External services (LEA personnel)

18.7 External evaluator

18.8 Pupil receiving support

18.9 Other pupils

18.10 Not clear

*19 Data on perceived impact*

19.1 Questionnaire

19.2 Semi-structured interview

19.3 Diaries

19.4 Anecdotal accounts

19.5 Not clear

*20 Categories of adult support*

20.1 **TA equivalent** (including TA, LSA, nursery nurse, language assistant)

20.2 **Pupil welfare** (including Connexions personal advisor, education welfare officer, nurse, home-school liaison officer, learning mentor, welfare assistant and midday assistant / supervisor)

20.3 **Technical and specialist staff** (ICT network manager, ICT technician, librarian science technician, technology technician)

20.4 **Other** (coaching/unpaid roles not listed above)

*21 Type of support*

21.1 Support for teachers/curriculum

21.2 Direct learning support for pupils

21.3 Direct pastoral support for pupils

21.4 Indirect support for pupils

*22 Focus of support*

22.1 General classroom support (to all class members, or roving support)

22.2 Targeted support for groups

22.3 Targeted support to individual Pupil

22.4 Not clear

*23 Impact on pupil*

23.1 Academic (Progress attainment)

23.2 Participation - attendance (in school, in class)

23.3 Participation - attention (engagement - teacher/task)

23.4 Participation - curriculum access (appropriate differentiation)

23.5 Participation - choice (motivational learning)

23.6 Participation - social access

23.7 Social and emotional - self-esteem

23.8 Social and emotional - relationships

23.9 Social and emotional - psycho-social

*24 Impact on school*

24.1 Teaching (curriculum, teaching methods, assessment)

24.2 Teachers (role, workload, stress, job satisfaction)

24.3 Leadership (senior teachers/heads - roles, workload, stress, job satisfaction)

24.4 Climate (organisation, ethos, wellbeing, cohesion, status)

24.5 Parent/Community engagement

*25 Processes*

25.1 Type of support given (Please specify.)

25.2 Amount of support given (Please specify.)

25.3 How was support organised (individual/group/withdrawal)

25.4 How was support delivered (team/individual, etc.)

25.5 Facilitating factors (specify)

25.6 Barriers to success (specify)

## Appendix 2.4: Levels of agreement on keywording categories

Keyword category and subcategories	Level of agreement
<p><b>Pupil focus</b></p> <ul style="list-style-type: none"> <li>Underachievement</li> <li>Behaviour</li> <li>Disability</li> <li>General</li> <li>Not clear</li> </ul>	<p>In all the cases compared, there was complete agreement on the coding of this item.</p>
<p><b>Data on impact</b></p> <ul style="list-style-type: none"> <li>National tests</li> <li>Group tests</li> <li>Individual assessment</li> <li>Personality tests</li> <li>Teacher rating scales</li> <li>Classroom observation</li> <li>Sociometric data</li> <li>Pupil records</li> <li>Not clear</li> </ul>	<p>In all the cases compared, there was complete agreement on the coding of this item.</p>
<p><b>Data provided by</b></p> <ul style="list-style-type: none"> <li>Teachers</li> <li>Support staff</li> <li>School leadership</li> <li>Governors</li> <li>Parents</li> <li>External services (LEA personnel)</li> <li>External evaluator</li> <li>Pupil receiving support</li> <li>Other pupils</li> <li>Not clear</li> </ul>	<p>In most cases, there was agreement on the coding of this item. Analysis of the discrepancies suggested a slight difference in emphasis in the case of 'classroom observation'. One reviewer suggested that data was provided by an 'external evaluator'; that is, the researcher coding the activity. Another researcher suggested that data was provided by teachers and pupils receiving support; that is, those 'actors' being observed. This discrepancy was not deemed to have a significant impact on the current review.</p>

<b>Data on perceived impact</b> Questionnaire Semi-structured interview Diaries Anecdotal accounts Not clear	In the cases compared, there was complete agreement on this item.
<b>Categories of adult support</b> TA equivalent Pupil welfare Technical and specialist staff Other	In the cases compared, there was complete agreement on this item.
<b>Type of support</b> Support for teachers/curriculum Direct learning support for pupils Direct pastoral support for pupils Indirect support for pupils	In the cases compared, there was agreement on this item. However, in one instance, a reviewer added a second subcategory in addition. The paper concerned addressed the second sub-category but it was not a key finding. The discrepancy was therefore not felt to be 'fatal'. It was concluded that, if significant, the issue could be picked up again in in-depth review.
<b>Focus of support</b> General classroom support Targeted support for groups Targeted support to individual pupil Not clear	In the cases compared, there was complete agreement on this item.
<b>Impact on pupils</b> Academic Participation: attendance Participation: attention Participation: curriculum access Participation: choice Participation: social access Social and emotional: self-esteem Social and emotional: relationships Social and emotional: psycho-social	In most cases, there was complete agreement on this item. In the case where a discrepancy was identified, it was clear that one reviewer had highlighted issues of significant focus within the paper, while the other had, in addition to these, also flagged up other issues mentioned that were not a primary focus of the paper.
<b>Impact on school</b> Teaching Teachers Leadership Climate Parent/community engagement	As above, in the cases where there were any school impacts mentioned, the reviewers agreed on the main issues. The second reviewer, however, also coded minor or side issues discussed in the publication. As above, this was not felt to be problematic at this stage.

## Appendix 3.1: Selected keyword mapping of 52 studies identified as relevant to the review

Keywords	Number of publications coded*
<b>Educational setting(s)</b>	5
Nursery school	
Post-compulsory education institution	1
Primary school	38
Secondary school	17
Other educational setting	3
<b>Pupil focus</b>	21
Underachievement	
Behaviour	8
Disability	16
General	13
Not clear	1
<b>Categories of adult support</b>	46
TA equivalent	
Pupil welfare	5
Technical and specialist staff	9
Other	4
<b>Type of support</b>	19
Support for teachers/curriculum	

Direct learning support for pupils	44
Direct pastoral support for pupils	15
Indirect support for pupils	9
<b>Focus of support</b>	19
General classroom support	
Targeted support for groups	20
Targeted support to individual Pupil	30
Not clear	2
<b>Impact on pupil</b>	28
Academic	
Participation: attendance	3
Participation: attention	13
Participation: curriculum access	13
Participation: choice	1
Participation: social access	8
Social and emotional: self-esteem	7
Social and emotional: relationships	15
Social and emotional: psycho-social	5
<b>Impact on school</b>	17
Teaching	
Teachers	16
Leadership	0
Climate	11

\* Publications may be coded under more than one keyword in each category.

## APPENDIX 4.1 Details of studies included in the in-depth review

Blatchford *et al.* (2001) Pupil adult ratio differences and educational progress over reception and Key Stage 1

**Overall quality** High

**Impact keywords:** Academic, teaching

Addresses information on numbers and types of classroom support and how these relate to class sizes; whether there were measurable effects of classroom support on pupils' educational progress; whether classroom support affected the number of classroom processes.

**Methodology:** The class size and pupil adult ratio projects followed for three years, two separate pupil cohorts. Cohort 1 = 7,142 pupils/330 classes/199 schools and cohort 2 = 4,244 pupils/212 classes/134 schools. Followed through reception, year 1 and year 2. Data collection: class size and adult support information; pupil backgrounds; pupil assessments in mathematics and literacy; teacher estimates of time allocation; teacher reports on classroom support; scales measuring teacher stress, enthusiasm and satisfaction. Case studies on sub-sample of classes.

**Review-specific findings:** The most significant effects for class size were in the reception year. No clear effects of additional staff and adults on pupil progress in any of the three years of Key Stage 1. Most noticeable effects on pupil educational progress was as a result of class size rather than extra staff: that is, the presence of extra staff did not appear to have a clear effect on teaching and curriculum time. As class sizes increased, there was less time for teaching overall. TAs were making a positive contribution to increased attention and support for learning; increased teaching effectiveness; effective classroom management; effects on pupil learning outcomes.

Blatchford *et al.* (2006) The deployment and impact of support staff in school: report on the findings from a national questionnaire survey of schools, support staff and teachers (Strand 1, Wave 1, 2004)

Blatchford *et al.* (2007) Deployment and impact of support staff in schools: report on findings from the second national questionnaire survey of schools, support staff and teachers (Strand 1, Wave 2, 2006)

**Overall quality:** High

**Impact keywords:** Academic, teachers

Two large scale studies of the characteristics and deployment of support staff in special, secondary and primary schools in England and Wales.

**Methodology:** Postal questionnaire surveys conducted in 2004 and 2006 to schools, support staff and teachers.

**Review-specific findings:** The report seeks to identify the characteristics and deployment of support staff in schools, and their impact on teaching, learning and how these change over time. It attempts to give a comprehensive overview of all aspects of support relating to salary, recruitment, retention, training and qualification, and how they support and impact on teachers and pupils.

In the first of the two reports and in terms of impact on teachers, the key findings suggest that the majority of teachers did not have enough planning or feedback time with support staff and this situation appeared to worsen in secondary and special schools. This may also be a reflection of poor or no training given to teachers and support staff to collaborate in this way. Teachers it seems were expected to train support staff, even though they had received no training themselves. This report does not go into greater detail but simply highlights the need for schools to engage more with this issue.

Teachers reported that support staff contributed to their job satisfaction in terms of reducing stress. Their presence was also beneficial in terms of pupil teaching, learning and behaviour. However, the greatest contributor to reducing workloads was more likely to be administrators and technicians, those operating outside the learning environment.

The impact on schools of the recruitment of TA equivalent support staff proved challenging for schools and seems to reflect the often poor hours and pay associated with the role. It also appears that inadequate training and little or no career progression is reflected in the high turnover of this particular group of support staff.

**Impact on pupils:** The results suggest that the level of support can vary quite considerably, but among TA equivalent support staff in a mainstream setting, they spent most or all their time supporting pupils. However, this is often dependent on whether the support is received in primary, secondary or special educational settings. Very little is said in the report relating to pupils, except that 'teachers were clear about the positive effect of support staff on pupil learning and behaviour'. It doesn't appear to detail what type of support this might be or whether or not the pupils have disabilities.

The main findings of the second report are that the appraisal and role definition (job description) of support staff appears to have improved significantly, and that there has been a significant increase in the number of staff employed in all categories of support staff. Findings suggest there has not been any dramatic change since their deployment in terms of impact on teachers (i) very little improvement in training provision for teachers to train support staff, (ii) increased job satisfaction and teacher stress reduced by TA equivalent support, (iii) lack of planning still undermining good practice (iv) continued reduction in the administrative tasks performed by teachers, but it was administrative support that was the greatest contributor to this workload reduction, rather than TA equivalent support (who are more likely to be involved in the classroom). Issues around career opportunities and pay remain. In terms of impact on pupils, it appears that teachers are experiencing more contact with support staff overall.

In terms of teachers' perceptions, the report suggests the increasing ubiquity of support staff in schools is creating a positive shift towards support staff in general as they are increasingly regarded as a permanent feature of school life.

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**Blatchford et al. (2008) Deployment and impact of support staff in schools and the impact of the national agreement: results from Strand 2 Wave 1 - 2005/06**

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**Overall quality:** High

**Impact keywords:** Academic, participation, social/emotional, teachers

Report describes findings on the deployment of all categories of support staff; the impact of support staff on teachers and teaching, and pupil learning and behaviour; and the impact of the National Agreement on pupils, teachers and support staff.

**Methodology:** Qualitative and quantitative. Combines pupil support survey, observation and case study components. It focused on pupils in years 1, 3, 7 and 10 during 2005/06. 47 schools participated in case study visits and 49 participated in observation visits.

**Review-specific findings:** In terms of pupil impact, the report addresses the following: adult and pupil interactions (support staff offered individualisation of attention and classroom control); the impact of support staff on pupil engagement (support staff enable a more active role in interactions with adults); pupil behaviour and learning (by taking on specific pupils and offering specialist help); pupils' approach to learning (improvements in pupils' behaviour, pupil distractibility, motivation, working independently); and pupil outcomes (general view was that support staff did have an impact on pupil attainment, behaviour and attitudes). In terms of impact on teaching, the report is positive: that is, support staff raise teachers' job satisfaction levels; decrease teacher workloads and stress; bring specialist help; allow more teaching to take place; take on specific pupils; and affect the curriculum/tasks/activities offered.

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**Bowers (1997) Supporting special needs in the mainstream classroom: children's perceptions of the adult role**

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**Overall quality** Medium

**Impact keywords:** Participation, teaching, teachers

**Methodology** Describes children's perception of the role of additional adults in the classroom for supporting children with SEN. Does some exploration of relationships within this by examining age differences in children's perceptions.

**Review-specific findings**

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### Pupils

(1) The amount of support from additional adults in the classroom received by children decreased with age (as reported by the children themselves). Nearly all children aged 6 to 7 reported receiving this support, whereas only one-third of those in the 11+ group reported this.

(2a) In general, most children reported that they believed the recipients of support from additional adults to enjoy, appreciate or value the support they were given.

(2b) A consistent minority reported that they felt that children receiving such support were being singled out. These reports occurred more often among older children (aged 10 plus). The author suggests that responses show evidence of 'out-group' denigration (either the children singled out, or the teachers).

### Schools

(3a) Children's explanations for the presence of additional adults in the classroom could be classified into five main types (in order of most frequent): help for the teacher (i.e. teacher inadequate to cope with whole class) N=146 responses classified in this way; the disciplinary function (i.e. help calm the class down; overlap with first category) N=108 responses classified in this way; pupil-focused attention / help for the child (i.e. purpose of additional adult is to help children in general through getting more attention and encouragement) N=89 responses classified in this way; differentiation by ability or need (i.e. purpose is to support children with difficulties) N=35 responses classified in this way; the support teacher as lower-order professional (i.e. not the proper of real teacher; there to watch or to get work experience) N=12 responses classified in this way.

(3b) Distinction between role of additional adults as help for the teachers or help for the pupils was related to age. Younger children tended to see it as the former, where as older children saw it as the latter.

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### Boyle *et al.* (2007) A randomised controlled trial and economic evaluation of direct versus indirect and individual versus group modes of speech and language therapy for children with primary language impairment

**Overall quality:** High

**Impact keyword:** Academic

**Methodology:** Focus - impact of speech and language therapy assistants (SLTAs) in helping pupils with primary language impairment (PLI) to overcome their language disorders. Comparison - direct therapy from a speech and language therapist (SLT) or indirect therapy from SLTA. Five groups: (a) direct 1:1 intervention from an SLT; (b) direct intervention in five small groups from an SLT; (c) indirect 1:1 support from an SLTA; (d) indirect support in five small groups from an SLTA; (e) a control group, normal community-based speech and language therapy. Five recruited SLTAs received a two-day training course. Intervention 3 times a week for 15 weeks in 30-40 minute sessions. The children with PLI, randomly allocated conditions (N=31-33 in each group). Pre and post tests, and, after a five-month follow-up period, on a CELF-3 UK (primary) and BPVS (secondary).

**Review-specific findings:** The findings indicated that all children in the four intervention groups made progress on the primary and secondary outcome measures that were maintained on follow-up. However, there was no difference in the progress made by those in the direct (SLT) or indirect (SLTA) therapy groups or between those in individual and group therapy. All intervention groups made significantly more progress than those in the control group on expressive language, but not in receptive language or receptive vocabulary.

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### Broer *et al.* (2005) Perspectives of students with intellectual disabilities about their experiences with paraprofessional support

**Overall quality:** High

**Impact keywords:** Academic, participation, social/emotional

**Methodology:** Qualitative: adult interviews (all but one with support)

**Review-specific findings**

16 adults from 11 different schools with intellectual disability

**Pupil impact:** Secondary setting: These adults in the study all left school within the previous five years.

**Target area:** Experience of paraprofessional support in school of pupils with intellectual disabilities. There is a lot of description about the process in ensuring that the pupils, on account of their disability, were able to understand what was being asked of them and from the researchers' point of view that they accommodated such things. The process allowed the researchers to identify four types of paraprofessional 'hat' before illustrating each in detail, using pupils' quotations.

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Academic: Some evidence of academic impact in relation to helping them with reading and to manage their money.

Social and emotional: Self-esteem/relationships impact: The main findings seem to suggest that paraprofessional support for the most part has been a rather negative experience for these ex-pupils (disenfranchisement, embarrassment, loneliness, fear, rejection, stigmatisation). Furthermore, their presence appeared to accentuate the ex-pupils feelings of difference within a mainstream setting. Again, the issue of 'paraprofessional proximity', and often too much of it, was reported. The study identified the following:

- (i) Paraprofessional proximity can be inhibiting for pupils: not knowing when to back off; offering too much assistance
- (ii) Paraprofessional acting as the pupil's primary teacher in general education class
- (iii) Paraprofessional as protector from bullying
- (iv) Paraprofessional identified as friend and/or mother
- (v) Dependence on paraprofessional, suggesting lack of peer networks
- (vi) Paraprofessionals' modification of curriculum

This study highlights the limitations of the research.

#### **Butt and Lance (2005) Modernizing the roles of support staff in primary schools: changing focus, changing function**

**Overall quality:** Medium

**Impact keywords:** Teachers, teaching

**Methodology:** Based on 'Pathfinder Project' data. 32 schools (questionnaires and interviews) and in-depth case study of five schools. Paper reports on number of statements from questionnaires (N=178, 180, 181 depending on statement) and some interview data from teachers.

**Review-specific findings:** Teacher: 80% teachers agreed that working with a TA reduced their workload. Senior manager comment that teachers have changing role in terms of having vision for school as a whole, and not just their classroom. Teaching: 87% of teachers agreed that working with TAs allowed them to spend more time teaching. Through Pathfinder Project, more recognition of TA skills and working more closely as a team. TA 'teaching' a contentious issue. Pupils see TA as taking over only when there is a teacher absence - not to teach per se. Senior manager perceives massive resistance to idea and need to handle carefully what TAs are allowed and not allowed to do.

Causton-Theoharis (2005) Increasing peer interactions for students with severe disabilities via paraprofessional training

**Overall quality:** High

**Impact keyword:** Participation

**Methodology:** (i) The effectiveness of a training programme on teaching paraprofessionals to facilitate interactions and (ii) the effectiveness of paraprofessionals on peer interactions.

Before and after intervention: two primary schools, four paraprofessionals and four pupils with severe disabilities (paired and one-on-one support)

Qualitative and quantitative: Paraprofessional training / pupil and paraprofessional observations/ social interaction scale

Checks for validity and reliability are recorded.

Review -specific findings

- (i) A small impact of the programme (i.e. change in paraprofessional behaviour) led to a big impact on peer interaction.
- (ii) Peer interaction increases as paraprofessional facilitation levelled off.
- (iii) Facilitating skills of the paraprofessionals were maintained after the intervention was over.

Pupil impact: Primary setting: It is both qualitative and quantitative. There is baseline and post-intervention data. Since it is evaluating both the programme and the peer interaction, there is a lot of description of the process of training to accommodate an accurate evaluation of the programme. Validity and reliability are also described. The study also acknowledges its own limitations.

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Target area: Peer interactions with disabled pupils. Four paraprofessionals facilitating peer interactions.

Social and emotional: relationships: The study looks at the dual impact of (i) the programme on the paraprofessionals and (ii) the paraprofessionals on the pupils. It is about two things: the facilitating behaviour of the paraprofessionals and the increase in quantity of the peer interactions. The study seems to suggest that the small impact of the programme led to a big impact on peer interaction. Furthermore, peer interaction would continue to increase, while the paraprofessional facilitation would level off. Pupil impact suggests interactions increased and were maintained.

School impact: An important observation from the field study was that some assistants always sat close to the pupils, whereas other always sat a few desks away. Other assistants sat outside the group of pupils. All assistants provided practical help, but assistance varied according to where the assistant was seated in the classroom. It was discovered that the assistants' position in the classroom was related to specific characteristics of the help provided. These characteristics were identified as the accessibility to the assistant: for example, when and where the assistants were available to the pupil; the assistant's main responsibilities, and who took the initiative for helping. As a result of this, three assistant types were identified:

1. the assistant as stand-in for the pupil
2. the assistant as help-teacher
3. the assistant as back-up resource

The assistant as stand-in for the pupil listened to the teacher's instructions as attentively as the pupil and initiated help immediately, based on the instructions. The pupil had limited opportunity to choose when or if they needed support because the assistant spontaneously initiated help.

The assistant as help teacher seemed to have an intermediary role between the teacher and the pupil during lessons, and undertook overall responsibility: for example, organising and planning everything that specifically concerned the pupil.

The assistant as back-up resource mostly provided help after a request from the pupil or teacher, as well as gave practical support for self-care activities, such as toileting, transporting and eating.

The findings indicated that in general, support was organised to promote participation in learning, but the teachers' perspective of how participation in learning could be best realised influenced how the help was provided.

Pupils' lack of influence: Pupils did not have much influence over the type of assistance provided and had little control over when and how support was given.

Social participation: When disabled pupils were able to choose, they often preferred to perform activities without help or with a minimum of help, which seemed to be because they wanted to avoid being seen as different. When pupils willingly accepted help, a determining factor was whether the support facilitated social participation.

Assistants' influence on school life

The stand-in assistant sometimes seemed to block the pupils' opportunities for interaction with the teacher, with the teacher sometimes perceiving the assistant and the pupil to be the same person, with comments on the pupils' behaviour being given to the assistant. In addition, it was common that the teacher would give instructions to the assistant, rather than to the pupil with disabilities.

The help-teacher assistant's presence when the teacher interacted with the pupil seemed to decrease the pupil's communication with the teacher. Adapting assignments and arranging alternative exams transferred some of the teacher's role to the assistant and meant that sometimes the teacher was uncertain whether the pupil with disabilities had learned something and exactly what the pupil could do.

The boundaries between the teacher and back-up assistant were much clearer. Teachers took the educational initiative and responsibility during lessons and assistants were in charge during breaks.

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**Cremin et al. (2005) Working with teaching assistants: three models evaluated**

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**Overall quality:** High

**Impact keywords:** Participation, teaching, teachers, climate

**Methodology:** Trial of three models of teacher/TA working: room management (divides tasks between adults working in the classroom); zoning (allocates roles based on classroom layout); and reflective teamwork (staff discuss, develop and advance ways to work together).

Year 1 or 2 class in each of six schools in one local authority. Two per model. No information on the qualifications of TAs. CT/TA pair given a half-day training - immediately implemented model in one session/week during group work part of literacy hour. Follow-up training after three weeks to 'clarify issues' arising/problem solve. Evaluation - observation of pupil engagement (on/off task) and staff perception / assessment of effectiveness of method.

Videoed engagement pre- and post-intervention - all children in each class during group work. Analysed by independent RA, focused on each pupil - gauged level of engagement for 10' over 10' (60 observations per child) - no inter-rater reliability. Individual and group interviews (schools grouped by model used).

**Review-specific findings**

**Participation:** Room management - improvement in engagement (on/off task) - T-test statistics given, but no averages pre and post. Teacher (Schedule 1) reported more groups receiving support and guidance from TA. Encouraged independence - low achieving children were not the only ones receiving support. TA reported that children stayed on task, but lacked 'personal attention'. Zoning: Teacher (Schedule 1) felt the system meant that poorer ones received more help. TA (Schedule 2) felt it resulted in more children engaged on task and therefore improved behaviour. Teacher (Schedule 2) felt it gave some children more positive behavioural role models and enabled others to develop helping skills. Less able children were less demanding and able to work more independently. Reflective teamwork: Least effect on engagement - authors comment that there were no children with very low baseline figures, so less opportunity for improvement.

**Teaching:** Room management: Teacher (Schedule 1) reports systematised teaching - greater communication. Shared understanding through more detailed planning. Felt encouraged to reflect more on support for children with special needs through use of TA. Concerned about the time needed to prepare. Teacher (Schedule 2) felt put too much responsibility on TA. Rise in noise when CT working with one group - so started 'visiting', roaming from one group to another setting work. Felt more able to concentrate on each group with few interruptions. Zoning: Took a while to get into pattern (Schedule 1) due to the presence of two demanding groups, and ensured that each group was heard regularly. The children were initially confused and had to be reminded of 'zones'. Eased problem by CT and TA roaming between the tables. Teacher felt this was the natural way to organise the classroom and it was easier to monitor pupils work and behaviour - uses TA more effectively. Releases teacher to teach one small group. Teacher (Schedule 2) felt enabled mixed ability teaching - worked best when task same but differentiation by outcome/expectation. Allowed more even distribution of input from CT/TA. TA felt all children received help more quickly. Reflective teamwork: CT/TA (Schedule 1) felt enabled them able to problem-solve more effectively. Empowered TA to use insights and knowledge. Teacher (Schedule 2) felt planning with TA enabled her to focus more on the needs of individual pupils. Made her think more deeply about planning and adapted teaching, following conversations with TA. Commented that TA often said what she wanted to say before she had her turn - authors comment shows thought and responses more similar than many would expect, given different training and professional status.

TA found helpful to be involved in whole-class planning.

**Teachers:** Zoning: Distribution of work with less able/demanding children who are not always willing to co-operate, meant staff less stressed (Schedule 1). Reflective teamwork: CT/TA (sch1) felt improvement in working practices due to strengthen help. Forced quality listening time.

**Climate:** Zoning: TA (Schedule 1) felt zoning good for inclusion - less able children integrated within whole class rather than seen as a separate group.

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<p><b>Frelew et al. (1974) Academic progress and behavioural changes in low achieving pupils</b></p>
<p><b>Overall quality:</b> Medium</p>
<p><b>Impact keywords:</b> Academic, social/emotional</p>
<p>Impact of 'assistant teachers' on: (i) academic (lower ability pupils / reading and mathematics), (ii) pupil behaviour</p>
<p><b>Methodology:</b> Before and after intervention. Primary: 67 (7-8 years), 57 (8-9 years), that is 1st-3rd grade. Lower quartile pupils. Quantitative: Achievement test; analysis of test data before and after the introduction of 'assistant teachers'; pupil rating scale (behaviour).</p>
<p><b>Review-specific findings</b></p>
<p><b>Pupil impact:</b> Primary setting: The intervention was test data analysed before and after the introduction of 'assistant teachers' (under a teacher assistant programme).</p>
<p>Target area: Reading and mathematics; also behaviour.</p>
<p>Academic: Pupils in lower quartiles made progress in reading and mathematics. In some cases, gains were made beyond expectancy levels.</p>
<p>Participation: social and emotional: Teachers reported behaviour improvement to many, but not all, pupils, and no significant differences in behaviour between the groups. (Behaviour change reported in both second and third grade for most. Insignificant number reported worsening / no improved behaviour.)</p>
<p>The behavioural problems appear to relate to the school (i.e. classroom management/teacher directions) rather than disturbances that pupils bring into school; that is, behaviour displayed is that of low achievement and not personality/social issues. There was no evidence to link behaviour and achievement. 'Assistant teachers' reported more school-related problems with older set of pupils than did the teachers.</p>
<p><b>French and Chopra (1999) Parent perspectives on the roles of paraprofessionals</b></p>
<p><b>Overall quality:</b> Medium</p>
<p><b>Impact keywords:</b> Participation</p>
<p><b>Methodology:</b> Parents' perspectives on paraprofessionals. Primary and secondary. 19 mothers of 23 SEN pupils drawn from nine different school districts; of the 23, two had graduated from high school. Qualitative: Parent focus groups (parent questionnaire pre-study).</p>
<p><b>Review-specific findings</b></p>
<p><b>Impact</b></p>
<p>(i) Mothers identified with paraprofessionals.</p>
<p>(ii) Paraprofessionals create connections between parents, community and school.</p>
<p>(iii) Parents regret paraprofessionals are not regarded highly as equal team member (i.e. respect; lack of inclusion; IEP meetings; role differentiation).</p>
<p>(iv) Parents negative about paraprofessionals adapting curriculum (on their own); not able to differentiate between medical and academic needs.</p>
<p>(v) Paraprofessional competence challenged. Lack of training.</p>
<p>(vi) Issues regarding hobby versus job, poor pay, poor attendance (due to the above), high turnover.</p>

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**Gerber *et al.* (2001) Teacher aides and students' academic achievement**


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**Overall quality:** High

**Impact keywords:** Academic

**Methodology:** Large-scale, longitudinal, experimental study in Tennessee, USA, in which children and TAs were allocated to classes on a randomized basis (Kindergarten to Grade 3). Children were assigned to one of three classes: a small class (13-17), a regular class (22-26), or a regular class with a TA (22-26).

**Review-specific findings:** 'All significant differences disappeared by Grade 3. No matter whether students had been in a teacher-aided class for one, two, and three or four years, their average performance did not differ from that of students who attended full size classes without an aide' (p 138). Suggest classes who have a fulltime TA for a long period of time may have some impact on pupils' reading scores: 'at least during the grades in which reading is emphasized. At the same time, these sporadic positive results arose in the context of many non-significant differences' (p 138). The study also found that children in small (no TA classes) did far better, even if a TA had been in a comparative class for a longer time. Key finding as the focus is on the effect of class size on pupil attainment. The overall finding is that children in smaller classes make more academic progress than their matched peers in larger classes, whether or not these larger classes have a TA.

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**Giangreco *et al.* (1997) Helping or hovering? Effects of instructional assistant proximity on students with disabilities**

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**Overall quality:** High

**Impact keyword:** Participation

This study presents data on the effects of the proximity of instructional assistants on students with multiple disabilities who are placed in general education classrooms.

**Methodology:** Qualitative relying primarily on extensive classroom observations of pupils with disabilities (N=110) and their teams. 134 educational team members participated (i.e. nurses, therapists, hearing, blind/deaf/mobility/speech and language specialists plus special educators, family support, instructional assistants, parents, school administrators). Observations included typical school activities, including, for example, interactions with disabled and non-disabled peers, lunch, class transitions.

**Review-specific findings:** In this study, the close proximity to pupils was 'ongoing' and there were recognisable benefits to this (i.e. tactile signing, instructional interactions, health management). However, too much attention could be detrimental to pupils and the study cites in particular separation from classmates; dependence on adults; impact on peer interactions; and loss of personal control.

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**Giangreco et al. (2001) Teacher engagement with students with disabilities: differences between paraprofessional service delivery models**


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**Overall quality:** High

**Impact keywords:** Participation, teaching, teachers, climate

This study focuses primarily on the issue of paraprofessional support on a one-to-one basis and those operating in a programme-based arrangement.

**Methodology:** Conducted in four schools, which had a history of including pupils with a range of disabilities in general education classes. Three schools were a K-8 school district and pupil numbers varied from 430 to 526. Older students attended the fourth school serving 1,410 students, grades 9-12. Paraprofessionals in the four schools were assigned to support pupils as one-to-one or as programme-based paraprofessionals. Observed and reported experiences of 103 school personnel (teachers, special educators, paraprofessionals, administrators).

**Review-specific findings**

Apart from identifying a paraprofessional's main role (instruction, personal care support, supervision, social/behavioural support), the study draws attention to the marked difference in the level of engagement the general education teacher displays towards pupils with disabilities as, it appears, a direct result of the method of paraprofessional service delivery. It suggests that the more established or embedded a programme-based approach is within a school setting, the more likely paraprofessionals operating within it will receive on-the-job training, mentoring and greater autonomy in the classroom. There may also be a subtext that collaborative working makes it easier to define the roles and responsibilities of paraprofessionals and teachers. The more collaborative the approach the more likely it is that the teacher shows a greater willingness to interact directly with pupils with disabilities, in much the same way they might interact with non-disabled pupils.

For those teachers who see paraprofessionals as working more independently on a one-to-one basis with a pupil, their preference appears to be to let them get on with it and the teachers' interaction with the pupil is largely peripheral, deferring even communication with parents to paraprofessionals. However, as becomes clear further in the study, the impact on pupils with disabilities - too much reliance on independent paraprofessional support and/or too much interference on the task in hand - can leave them feeling marginalised, even stigmatised. Paraprofessionals themselves, operating in this way, report feeling isolated from the teacher and teaching practices and develop stronger relationships between fellow paraprofessionals. Within this study, there is a suggestion that paraprofessionals operating outside a programme are, if not regarded less highly, at the very least are treated somewhat differently.

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**Grek et al. (2003) Similarities and differences between experienced teachers and trained paraprofessionals: an observational analysis**


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**Overall quality:** High

**Impact keyword:** Academic

Comparison of teachers with paraprofessionals in a reading intervention for 'struggling readers' (targeted pupils).

**Methodology:** Before and after intervention. Primary. 184 x first graders (6-7 year-old pupils). Pupil tests and IQ determined final inclusion in study. Two cohorts in five schools. Four teachers (for year 1 and 2). Five paraprofessionals in year 1, two continued into year 2. Three new paraprofessionals began in year 2. Two-year study.

**Quantitative:** Analysis of pre- and post-test reading achievement (and observation). **Qualitative:** Observation (for additional detail that quantitative observation may have missed). Prescriptive early reading curriculum developed for study.

**Review-specific findings**

**Pupil impact:** 184 first-grade students with literacy difficulties received a highly prescriptive reading intervention for 40 minutes per day five days per week from October to March from trained teachers (N=4) and TAs (N=8). It is unclear whether the pupils were withdrawn from class for the intervention. The intervention was given in small groups and was highly prescriptive, using a curriculum known as Proactive Reading. Training consisted of a two-day workshop and monthly follow-up seminars. Teachers and TA were observed throughout to ensure fidelity. TAs were not qualified teachers, although two had arts degrees. Pupils' academic progress was measured on the Woodcock and Stanford Achievement tests. Both groups made the same amount of progress, although there was no control group - a weakness in the design.

There were some differences in the fidelity of the intervention with teachers doing better than TAs on five of the eight assessed elements of effective intervention including student attentiveness (engagement). However, this was mainly accounted for by three of the TAs.

**Impact:** Teachers and paraprofessionals: 'Equally effective in stimulating reading growth'. Although paraprofessionals did not instruct as well as teachers, different academic outcomes were not detected.

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**Hemmingson et al. (2003) Participation in school: school assistants creating opportunities and obstacles for pupils with disabilities**


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**Overall quality:** High

**Impact keywords:** Participation, teaching

**Methodology:** An observational study with follow-up interviews: field observations, informal interviews and planned semi-structured interviews.

**Review-specific findings**

**Pupil impact**

**Peer interaction:** The type of help given also influenced peer interaction. Intensive support sometimes resulted in signs of jealousy from other pupils. Also proximity of the assistant to the pupil also decreased the pupils' opportunities for interaction. The help-teacher was often aware of the importance of peer interaction for social participation and that some classmates might feel envy, and took steps to avoid this.

**Educational participation conflicting with social participation:** Sometimes efforts to facilitate participation in learning conflicted with social life during breaks and the pupils' opportunities to be included and accepted in a peer group. In general, assistance was organised to facilitate participation in learning, which sometimes reduced the pupils' opportunities for interaction. This was not intentional and was a consequence of the support. From a learning perspective, this seemed to be the right decision; from the perspective of social interaction, however, it was counterproductive. Pupils with disabilities seemed to prioritise social participation in terms of being accepted and included in a peer group.

The results of the study also showed that social interaction could correlate well with participation in learning activities, and even increase learning activities. The help-teacher assistants who were aware of the importance of peer interaction for participation tried to include pupils when special solutions were offered to the pupil with disabilities. This was a strategy designed to increase the disabled pupils' opportunity to participate in learning without threatening social participation.

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**Lacey (2001) The role of learning support assistants in the inclusive learning of pupils with severe and profound learning difficulties**


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**Overall quality:** Low

**Impact keywords:** Participation, teaching, teachers, climate

**Methodology:** Study on inclusion of children with severe learning difficulties (SLD), and profound and multiple learning difficulties (PMLD) in main classes. Initial phone survey of practice in 60 schools, 24 selected to represent range of practice and self-reported good practice; final four schools studied in detail. Paper appears to be based on 24 + extra observations/interviews in the four schools. 53 were observed (40 SLD, 13 PMLD) 13 interviewed / 43 LSAs observed and interviewed / 25 teachers observed and interviewed / 50 lessons observations/ 30 parent interviews. LSAs from the four case study schools were asked to verify interpretations of researchers. Data includes some special schools where pupils with PMLD included in the main part of school all, most, or some of the time. Paper appears to report data on sessions where pupils in mainstream schools.

LSA perceptions reported.

**Review-specific findings**

**Social/Emotional:** Observational data of LSA promoting social interaction in class or playground by encouraging direct communication.

**Participation:** Examples of LSA supporting child with LD learning as part of group in lesson; when sure, can cope also supporting other groups in lesson. LSAs stressed promoting maximum independence possible.

**Teaching:** Involvement in planning and preparation varied greatly - some full involvement, some followed teacher plan or joined in the best they could. 'Most' LSAs regarded reporting back to regular teacher (special school or resourced class) as important part of job. 'Some' provided support - ensured child could cope then went to help others. Most felt should support learning and teach. Some unsure - felt 'left to teach' because teacher did not know how to meet needs of pupils with such complex disabilities. LSAs comment on lack of time and opportunity to talk and plan with teachers. Sometimes the level of work is too high - placement in low ability groups provided 'poor behaviour models'. Many did not have serious difficulties but uncertainty about lesson content, until it started, was problematic.

**Climate:** Many involved in daily recording and writing home-school diaries. Some LSAs in direct contact with parent and reported regularly to them on progress of inclusion. Commented difficult to get schools to take pupils with SLD - individual teachers not 'in tune' with needs.

**Teachers:** LSAs comment can be a threat to teachers, due to the amount of work and poor pay; implies LSAs may be employed in preference to quality teachers. Teachers just let LSA get on with it - implies lack of skills and using LSA as means to compensate.

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**Loos et al. (1977) A multi-element analysis of the effect of teacher aides in an 'open'-style classroom**


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**Overall quality:** Medium

**Impact keywords:** Academic, participation, teaching, climate

Teacher aides compared with 'no aide' intervention on (i) achievement and (ii) on-task behaviour.

**Methodology:** Qualitative and quantitative: achievement: assessments units counted (ANOVA). On-task: Observations of aides. Consultations with teachers.

Assessed use of TAs in open style classroom. 54 third-grade students in two classes (random assessment) - wide range of abilities. 7 years 10 months to 10 years 5 months. Classrooms two out of four in 'open pod' system - each in corner of room with own utilities with centre area for special projects class meetings, etc. Children had 'home seat' but could change. Two measures: number of assessment units, 80% complete. Longer work subdivided and each scored separately. On-task/off-task behaviour also observed. Two observers in each class - observations of 13-14 students each period during 45- minute, self-directed language arts session. Child observed for 30 minutes (6 x 5 minutes). Each child recorded for 30 minutes every 7 days. Aide 'condition' randomised. Three types: 'aide' helper - assisted children and helped maintain discipline; disciplinary - no help just helped maintain discipline; peer mentor (fifth grade), same as adult helper; no aide. Aides were undergraduate psychology students.

**Review-specific findings**

*Academic:* Repeated measures ANOVA, three aide conditions were associated with increased academic output ( $p < 0.01$ ,  $df, 3, 27$ ) compared with no-aide. Largest difference between no aide and 'helper' aide conditions. Participation: Statistically significant difference ( $p < 0.05$ ,  $df, 3, 27$ ) but only 10% better for aide versus no aide conditions. Found that 'disciplinary' and 'peer' aides' presence was associated with increased output but these were not correlated with the highest academic outputs. Authors comment that discipline therefore may keep students 'on-task' but does not ensure learning at an increased rate. During no-aide conditions, the teacher was present intermittently; however, on-task behaviour was still at acceptable levels (70-80%). No comment on possible confounding due to the presence of two observers during no-aide conditions. Arguably, providing adult 'presence', if not interaction.

*Climate:* Not a primary focus. Argues lack of significant decrease in on-task behaviour during no aide condition indicates that classroom control may not be an issue for the open classroom. However, does not address issue of two observers present during these sessions.

**Impact**

- (i) Slightly better for aide versus 'no-aide'.
- (ii) Biggest difference between 'helping adult' and 'no aide'.
- (iii) Disciplinary adult and fifth-grade aider increased output, but no correlation with academic outcomes.

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**Malmgren and Causton-Theoharis (2006) Boy in the bubble: effects of paraprofessional proximity and other pedagogical decisions on the interactions of a student with behavioural disorders**


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**Overall quality:** Medium

**Impact keyword:** Participation

How classroom environment/pedagogical decisions affected peer interactions with EBD pupil in class supported by a paraprofessional.

**Methodology:** Primary. 1 x second-grade (7-8 year-old) pupil with EBD in class with 59 pupils (8 with disabilities). Qualitative: Interviews and observations.

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**Review-specific findings**

**Pupil impact:** Primary setting: This is very much one-on-one paraprofessional support in a large classroom (team room) setting (which included three teachers, one paraprofessional) plus pupil's mother in offsite setting, for an entire academic year for a pupil with EBD.

**Target area:** Understanding peer interactions with EBD pupil.

Observations of the social (verbal/non-verbal) interactions of the EBD pupil with peers and paraprofessional; interviews with all parties concerned (as above) including the boy; all parties views on the impact of those interactions inside school and at two offsite settings (boy's home, restaurant play area) were reported. The authors have gone to great lengths to ensure triangulation of method for data collection.

**Participation:** Choice

What the authors describe appear to be strategies (problem-solving, points system, task structure) which they believe made classroom interactions easier, but not always for the pupil concerned. The recorded data also suggests that paraprofessional proximity was counter-productive in terms of peer interactions: there was a higher level of peer interaction with the pupil in the paraprofessional's absence. The authors point to other texts that support this observation. Impact: Fewer peer interactions than expected (more with adults).

Classroom environment successful when (i) group point system and (ii) class problem-solving strategy were introduced.

**Task structure:** Unstructured least successful. Paraprofessional proximity: adversely affected peer interaction.

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**Miller (2003) Partners-in-reading: using classroom assistants to provide tutorial assistance to struggling first-grade readers**


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**Overall quality:** High

**Impact keyword:** Academic

**Methodology:** 54 third-grade students in two classes (random assignment) - wide range of abilities. 7 years 10 months to 10 years 5 months.

**Review-specific findings:** Although the three groups from both cohorts were equivalent on word recognition and developmental spelling measures at the beginning of the year, PIR and reading recovery (RR) students outperformed control students on the word recognition and developmental spelling measures at the end of the first grade. At the end of the second grade, PIR and RR students outperformed the control group on two of the four achievement subtests (word recognition and comprehension), and were far less likely to be retained. Despite gains, however, tutored students' performances still lagged behind the average levels of most students in the school. Conclusion: Struggling first-grade readers need intensive ongoing support. Success of the PIR scheme felt to be in initial training and ongoing guidance and monitoring of classroom assistants.

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**Moyles and Suschitzky (1997a) Jills of all trades: classroom assistants in KS1 classes: summary and recommendations**


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**Overall quality:** Medium

**Impact keywords:** Participation, teaching, teachers

Investigates the working roles and relationships of Key Stage 1 teachers and classroom assistants and if the introduction of a pilot STA training course changed classroom assistants perceptions of their role.

**Methodology:** Primarily a survey of views, based on questionnaires, classroom observation and interviews. Participant perspectives (including children, teachers, CAs, headteachers, time sampling of classroom interactions, field notes and video of interactions). Children were interviewed in pairs, to support each other with a relative stranger. Between five and eight Polaroid photos of the T, CA and children's activities had been taken earlier in the day to use as prompts for children's responses to questions.

**Review-specific findings:** In relation to the quality of learning and the curriculum as a whole, the findings suggest that the roles of the two, teachers and assistants were different: that is, that assistants undertook the responsibility of ensuring that a task was completed, whereas the teacher was responsible for the acquisition of knowledge. Results also suggest that the assistants may impede a pupil's creative process by taking over a task. Supporting pupils' basic skills appeared to be the main function of assistants and that, with so little input in the lesson planning process, there was very little expectation of anything more from them. The implication might be that greater awareness in joint lesson preparation might contribute to a better learning experience for pupils.

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**Moyles and Suschitzky (1997b) The employment and deployment of classroom support staff: headteachers' perspectives**

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**Overall quality:** Medium

**Impact keywords:** Participation, social/emotional, teaching, teachers

To investigate the employment and deployment of CAs and the implications for the quality of pupil's learning experiences.

**Methodology:** Triangulated research, comprising questionnaire survey, observations and interviews. Teachers and CAs were surveyed, observed and interviewed. Headteachers were interviewed about school policies.

**Review-specific findings**

*Teachers:* Three headteachers commented that teachers were less stressed with a CA in a supporting role. No heads had considered the implications of this extended role for teachers as 'team leader' as part of the teachers' appraisals. Headteachers were happy that the additional skills developed by CAs during training to become an STA (HLA) meant that teachers were enabled to take on wider responsibilities within school.

**Muijs and Reynolds (2003) The effectiveness of the use of learning support assistants in improving the mathematics achievement of low achieving pupils in primary school**

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**Overall quality:** High

**Impact keyword:** Academic

**Methodology:** Triangulated design, using interviews, observations and questionnaires as sources of data on the perceptions and activities of the subjects of the study, and of those coming into contact with them.

**Review-specific findings:** Indicated that all the pupils, experimental and control, made progress on a standardised test, but there were no differences between those in the control or intervention groups. There was also no relationship between amount of support received by the children in the intervention group and the progress that they made.

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**O'Shaughnessy and Swanson (2000) A comparison of two reading interventions for children with reading disabilities**

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**Overall quality:** High

**Impact keyword:** Academic

**Methodology:** Two measures

**Review-specific findings:** Pupils in both treatment groups did equally well and significantly better than the pupils in the mathematics group. The authors conclude that 'with adequate training and ongoing supervision, this study showed that paraprofessionals could successfully implement research-based reading interventions' (p 274).

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**Robertson et al. (2003) General education teachers' relationships with included students with autism**

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**Overall quality:** Medium

**Impact keyword:** Participation

**Methodology:** 187 pupils from second- and third-grade inclusive classrooms from two urban school districts participated. Of the 187, 12 were autistic pupils. Additional participants included all pupils with autistic classmates with parental permission. Teachers were interviewed about teaching experience and completed a rating scale. General education classroom teachers completed student-teacher relationship scale, questionnaire and were interviewed. Classmates completed a social inclusion measure.

**Review-specific findings:** Close proximity of TA to pupils with autism did not interfere with pupil-teacher engagement.

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**Rose (2000) Using classroom support in a primary school: a single school case study**


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**Overall quality:** Medium

**Impact keyword:** Participation

**Evaluation of LSAs.**

**Methodology:** Number of assessment units 80% complete. Longer work subdivided and each scored separately. One junior school. Six SEN pupils. 10 teachers. Qualitative: teacher interviews/ LSAs and pupil observations.

**Review-specific findings**

**Pupil impact**

**Primary setting:** Involved six pupils. This is a confusing study: it refers to two studies, but the point at which one stops and the other begins is unclear. It refers firstly to teachers, the findings then refer to LSAs. Interviews with teachers about strategies and observation of sample pupils.

**Participation:** Curriculum access: All pupils saw the LSAs as supporting the whole class, perhaps reducing any stigma attached to in-class support. School opposed to allocating one-to-one support.

**School impact**

Evidence suggests LSAs are able to support whole class and teachers support this where necessary.

LSAs are involved in planning, delivery and evaluation. (Unlike other studies that conclude these collaborations are missing and necessary, here is one in place). The LSAs are highly skilled to make decisions and given a roving brief to make brief interventions. The study acknowledges its own limitations.

**Impact**

- (i) All teachers interviewed saw LSAs as critical in enabling pupils to be included in class activities.
- (ii) Efficient deployment of LSAs enabled them to support the whole class rather than on individual pupils.
- (iii) All pupils saw LSAs as supporting the whole class.
- (iv) Where classes have high numbers of SEN pupils, support to individual pupils is not an efficient use of LSA.
- (v) Over-provision of learning support for EBD pupil was as likely to prolong bad behaviour.
- (vi) Organisational guidance to SEN pupils by LSAs.

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**Savage and Carless (2005) Learning support assistants can deliver effective reading interventions for 'at-risk' children.**

**Savage and Carless (2008) The impact of early reading interventions delivered by classroom assistants on attainment at the end of Year 2**

**Savage et al. (2003) The effects of rime- and phoneme-based teaching delivered by learning support assistants**

**Overall quality:** High

**Impact keyword:** Academic

**Methodology:** On-task/off-task behaviour also observed by two observers in each class. Observation of 13-14 students each period during 45-minute, self-directed language arts session. Child observed for 30 minutes (6 x 5 minutes). Each child's behaviour was recorded for 30 minutes every 7 days .

**Review-specific findings:** The first two studies indicate that there were significant differences on all outcome measures for children in all three intervention groups when compared with the control group. There were no differences in the scores obtained by the children in each of the three intervention groups, suggesting that it is the extra help offered by the TA, rather than the specific aspects of early literacy instruction, that seemed to make the difference in these children's achievements. The authors conclude that 'LSAs (TAs) can enhance the literacy development for 6 year old poor readers' (p 211). On the whole the 'responders' in the follow-up study performed significantly better than the 'non-responders', but, even so, the responders' performance was still a little behind the norm for 7 year-olds. The authors conclude that 'CA (TA) delivered reading interventions clearly can contribute to raising literacy standards and have long-term effects' (p 379).

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**Tews and Lupart. (2008) Students with disabilities' perspectives of the role and impact of paraprofessionals in inclusive education settings**


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**Overall quality:** Medium

**Impact keyword:** Participation

Pupils' perceptions of the role of the paraprofessional and its impact on the pupils' 'inclusive education experience'.

**Methodology:** Study of role and impact of educational assistants (TAs) as perceived by students with learning disabilities in Canada. The TAs provided assistance in class and at break times, but this varied between schools. Purposive sample of eight students, two from each age group 3-6; 7-12; 13-17; 18-30. Three pupils, autistic; two pupils, developmental delays; one, Downs syndrome; one, brain injury; one Prada-Wilti syndrome. Even split urban and rural schools. Individual semi-structured interviews (open-ended questions) in the family home. Questions re-phrased as necessary to meet needs of student. Interviews recorded and transcribed. Coding reliability checks carried out. Data triangulated with interviews with carer/teacher/TA - interviews not reported here. There was no consideration of age effects in interpretation; findings relating to tolerance of TA presence may be linked to age. Adults and teenagers less likely to be happy with constant adult presence. Reliability, triangulation and limitations of research included.

**Review-specific findings**

**Participation:** Some commented that would not be able to attend their mainstream class without TA assistance. Only two students involved in school group; one accompanied by TA.

**SE:** Six students noted support with relationships with classmates, including 'educating' peers regarding disability. The effectiveness of this strategy was said to be influenced by perceptions of other 'children' towards TA. Three students felt that TA help was necessary to facilitate interaction - focus on activity/for protection; latter not amplified. Some students felt that they were assisted when they felt they could be independent. Others reported that their TA encouraged and allowed them to be independent when appropriate. Desire for close TA 'proximity' varied. Authors comment linked to capability within setting. Some comments about behavioural support including help in 'regulating mood' and assisting the student to remain calm.

**Teaching:** Students commented that TAs were necessary for support with academic work. Comments included that TAs helped the student to remember things or that they simplified tasks. Five students commented that they spent more time with the TAs; another two spent equal amounts of time with a TA and teacher.

**Climate:** Seven students commented on the necessity of TA for inclusion and social support; implies that this facilitates an 'inclusive' environment.

**Impact**

- (i) Promotion of socialisation / peer networking compromised by more interaction with paraprofessionals
- (ii) Paraprofessionals overall viewed favourably by peers

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**Vadasy et al. (2006) Paraeducator-supplemented instruction in structural analysis with test reading practice for second and third graders at risk for reading problems**


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**Overall quality:** High

**Impact keyword:** Academic

**Methodology:** Aide 'condition' randomised. Three types: 'aide' helper - assisted children and helped maintain discipline; disciplinary - no help just helped maintain discipline; peer mentor (fifth grade) same as adult helper; no aide. Aides were undergraduate psychology students.

**Review-specific findings:** In the 2006 studies, all children in the intervention groups (N=23) made significantly more progress than those in the non-intervention groups (N=29). In the 2007 study, both groups made significant progress. The authors claim that all three studies show that TAs can be trained to work successfully with children with literacy difficulties. 'The findings presented here indicate that para educators can effectively supplement classroom reading instruction for second and third grade students who do not yet perform at grade level in word reading skills...The instruction delivered by trained para educators in these studies represents a standard protocol that is feasible in many schools to adopt for which fidelity of implementation is attainable' (2006 p 376). 'The present study extends our previous findings in the beneficial effects of supplemental instruction, as provided by para educator tutors, for low-skilled second and third graders' (2007, p 520).

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**Vadasy et al. (2007) Effectiveness of paraeducator-supplemented individual instruction: beyond basic decoding skills**


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**Overall quality:** High

**Impact keyword:** Academic

**Methodology:** This and the above paper report on the outcomes of three separate studies. Specially selected TAs, received three hours training and up to 90 minutes follow-up support, provided individual tutoring to children (grades 2/3) behind in basic literacy skills. Tutoring involved withdrawing small groups of children for 30 minutes per day, four days per week for up to 20 weeks. Children in non-intervention groups received intervention as usual (2006 study), while, in the 2007 study, a crossover design was used.

**Review-specific findings:** In the 2006 study, all children in intervention groups (N=23) made significantly more progress than those in the non-intervention groups (N=29). In the 2007 study, both groups made significant progress. Authors claim all three studies show TAs can be trained to work successfully with children with literacy difficulties.

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**Vander Kolk (1973) Paraprofessionals as psychotherapeutic agents with moderately disturbed children**


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**Overall quality:** Medium

**Impact keywords:** Social/Emotional

Effects of paraprofessionals (aides) as therapeutic agents on (i) pupil self-esteem, (ii) classroom behaviour and (iii) behaviour in therapeutic situation.

**Methodology:** Before and after intervention. Two primary schools. 40 pupils in total (fifth grade). 20 in treatment group. 20 in control group. Pupils all 'moderately disturbed'. Quantitative and qualitative: self-esteem inventory. Teacher rating scales (of pupils). Questionnaire for aides to evaluate programme. Aides and pupil meetings.

**Review-specific findings**

**Pupil impact**

**Primary setting:** This was a before and after intervention and the findings suggested that there was no noticeable change in post-test scores.

**Target area:** self-esteem/classroom behaviour

**Social and emotional:** self-esteem/psycho social: It reported that the more time spent with a paraprofessional produced a slight gain. However, paraprofessionals perceived moderate to great improvement in pupils' behaviour; however, this was through a self-administered questionnaire. For greater qualification, the study reported that unsolicited responses produced a near consensus that emotional gains were made. There was also speculative impact: that is, the child may feel relaxed/comfortable. It argues that a lack of significant decrease in on-task behaviour during no aide condition indicates that classroom control may not be an issue for the open classroom. However, this does not address the issue of two observers present during these sessions.

**Impact**

(i) Paraprofessionals perceived moderate / great improvement in pupil behaviour.

(ii) Pupil time spent with paraprofessional produced a slight gain.

(iii) Speculative impact that pupils feel relaxed/comfortable.

(iv) Paraprofessionals felt more valued.

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**Wang and Algozzine (2008) Effects of targeted intervention on early literacy skills of at-risk students**


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**Overall quality:** High

**Impact keyword:** Academic

**Methodology:** This is a targeted intervention study in six 'matched' primary schools. Year one children from four schools with identified literacy difficulties took part in the intervention (N=101). Children in the two other schools were controls (N=38). The TAs were trained to deliver the intervention to small groups of children on a withdrawal basis; 110 lessons, each lasting 10-15 minutes per day, using a version of Direct Instruction, in that the lessons were scripted.

**Review-specific findings:** Both groups made progress on standardised literacy tests, but the treatment group scored significantly better on most measures.

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**Welch *et al.* (1995) A consultation and paraprofessional pull-in system of service delivery: a report on student outcomes and teacher satisfaction**


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**Overall quality:** High

**Impact keywords:** Academic

The study assesses the impact of a hybrid approach to educational partnership, known as 'CAPP', for serving at risk pupils and those with mild academic abilities. **Methodology:** Quantitative and qualitative evaluation designed to assess teacher attitudes, pupil outcomes and the number of referrals for special educational services are presented. Description of the CAPP model and its implementation at an elementary school. The school is a K-6 elementary school with 904 pupils. In the CAPP model, a teacher works side-by-side with a paraprofessional as instructional interventions are delivered to pupils at risk and those eligible for special education services, in a general education classroom.

**Review-specific findings**

**School impact:** Teaching: Suggests that three key aims were met. Data from key stakeholders and from independent observation by research team confirm that CAs have enhanced the quality of the children's learning experience. They conclude that CAs can make a strong contribution by improving the quality of learning in the classroom.

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**Werts *et al.* (2004) What parents tell us about paraeducators**

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**Overall quality:** Low

**Impact keyword:** Participation

Parents perceptions of the paraeducator's role

**Methodology:** Inclusive education setting. 33 paraeducators. 28 parents of 33 pupils (22 boys/6 girls aged 4-12 years, i.e. fifth grade). 71% one-on-one paraeducator. 29% teacher/paraeducator team. Qualitative: Paraeducators interviewed (same protocol as parents) and observed. (Findings from observations not included in article). Observed on three different days for one hour. Parents interviewed by phone (except two in person). Coding of transcription.

**Review-specific findings:** Results suggest that parents were pleased with their children's paraeducators. Parents made several recommendations: that is, the need for more training; better communication between parents and school personnel. Parents also perceive paraeducators as 'teachers' who should be professionally valued and attend IEP meetings and parent conferences.

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**Werts *et al.* (2001) Paraprofessional proximity and academic engagement: students with disabilities in primary aged classrooms**

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**Overall quality:** High

**Impact keyword:** Participation

**Methodology:** Examines effects of proximity of a paraprofessional on academic engagement and type of interaction of primary aged students with substantial disabilities. A single-subject, alternating treatments design (N=3) was used to investigate the effects of proximity at two positions (less than 2 feet from the student and more than 5 feet from the student) on academic engagement...and the nature and frequency of interactions between students with substantial disabilities and paraprofessionals assigned to assist them'. Three similar students (K-2) and their paraprofessionals in three schools in two districts are studied using the same observational framework. Each of the three pupils selected represented a student with a disability in the class at the time instruction was being given by a the class teacher and at the time of assistance given by a paraprofessional, and was also present while students in the class were typically engaged in academic activities. Proximity of paraprofessional and type of interaction between paraprofessional and student were measured according to controlled intervals of time

**Review-specific findings:** Two main findings are yielded from the results: firstly, with primary-aged pupils in inclusive settings, the proximity of the paraprofessional to the student with disabilities is a factor student engagement; secondly, 'interactive behaviors during the close condition for each paraprofessional and student pair were primarily verbal' (p 436). The results presented in graphs suggest that the 'percentage of intervals of academic engagement was higher and percentage of intervals of non-engagement was lower for each of the three students when the paraprofessional was close to the student' (p 436)

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**Woolfson and Truswell (2005) Do classroom assistants work?**


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**Overall quality:** Low

**Impact keywords:** Academic, participation, social/emotional, teachers, climate

Evaluation of LA project 'CAP' (classroom assistant) on (i) pupil early years learning, (ii) pupil social development, and (iii) parental involvement in learning

**Methodology:** qualitative and quantitative - parent questionnaires, parent focus groups, pupil focus groups, class/playground observations.

Funding provided to employ CAs with specific remit to improve quality of learning in classroom; improve other aspects of children's personal and social development; and encourage parental involvement in their child's learning. LA applied for funding for CAs under a better services fund. CAs funded were selected by LA and placed in five primary 1 classes in three schools situated in areas of deprivation for nine months. Funded for one academic year. Participants included: explicitly stated - five CAs, 51 parents (questionnaires), eight parents in two focus groups, 17 children in three focus groups.

Implicit - included discussions with three class teachers, three headteachers. 46% (51) questionnaires returned. No clear information on refusal rates for focus groups. Observations of one hour were conducted over span of one school day in each school.

**Review-specific findings:** Interactions with the paraprofessional were correlated with verbal interactions when the student was actively engaged for each of the three students.

**Impact**

- (i) Enhanced the quality of pupils' learning experience
- (ii) Positive effect on social development
- (iii) Increased parental involvement in school and pupils' learning
- (iv) CAs more accessible to parents (workshops)

The results of this systematic review are available in four formats:

**SUMMARY**

Explains the purpose of the review and the main messages from the research evidence

**REPORT**

Describes the background and the findings of the review(s) but without full technical details of the methods used

**TECHNICAL REPORT**

Includes the background, main findings, and full technical details of the review

**DATABASES**

Access to codings describing each research study included in the review

These can be downloaded or accessed at  
<http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=2438>

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