



The impact of paid adult support on the participation and learning of pupils in mainstream schools

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REVIEW

December 2003

**The impact of paid adult
support on the participation
and learning of pupils in
mainstream schools**

Review conducted by the Inclusive Education Review Group

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The Review Group for Inclusive Education welcomed the support and critical comment of an Advisory Group formed in response to invitation from the fields of international research; local education authorities; headteachers; teachers; support staff; charitable bodies; parents and editor of professional journal (see Appendix 1.1).

Many members of this group have played an active role in shaping the Review Group's work, facilitated partly through a review-specific website on which copies of up-to-date developing documents relating to the review have been maintained. They have helped to decide on review topics and scope and have commented on review drafts. The Advisory Group met for a seminar in Manchester in October 2002 and maintained electronic contact at other times.

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LIST OF ABBREVIATIONS

DfES	Department for Education and Skills
EPPI-Centre	Evidence for Policy and Practice Information and Co-ordinating Centre
ESRC	Economic and Social Research Council
GTC	General Teaching Council
HMI	Her Majesty's Inspectorate
LEA	Local Education Authority
LSA	Learning support assistant
NLNS	National Literacy and Numeracy Strategy
Ofsted	Office for Standards in Education
PAS	Paid adult support
SATs	Standard Attainment Tests
SEN	Special Educational Needs
SENCo	Special Educational Needs Co-ordinator
SES	Socio-economic status
SSA	Special support assistant
TA	Teaching assistant
TLRP	Teaching and Learning Research Programme

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SUMMARY

Background

In recent years, there has been a massive rise in the number of paid support staff being employed to work alongside teachers in mainstream schools and classrooms. In the UK, the majority work as teaching assistants (TAs), but recently schools within the Excellence in Cities initiative have employed learning mentors, and occasionally paid adult support in classrooms is offered by qualified teachers. A recent government consultation paper on the role of school support staff (DfES, 2002) indicated that there were over 100,000 working in schools – an increase of over 50 percent since 1997.

Several recent publications have recognised the increasingly valuable and supportive role that paid adult support staff can have in mainstream schools (see, for example, Farrell, Balshaw *et al.*, 1999; Balshaw and Farrell, 2002; Rose, 2000; CSIE, 2000) and this general view is supported by government documents and Office for Standards in Education (Ofsted) reports (DfES, 2000a; Ofsted, 2002). However, despite these generally positive accounts of the value of support staff, to date no systematic review of international literature has been conducted that has focused on the key question of whether and how support staff in classrooms have an impact on pupils' learning and participation in schools and classrooms. Put simply, is there evidence that pupils learn and participate more effectively in mainstream schools when support staff are present in classrooms?

Aims of the review and review question

This review aims to explore this issue by identifying and evaluating the empirical evidence around the question of whether support staff can increase the learning and participation of children in mainstream schools. In undertaking this task we focused on support given to all children, including those described as having special educational needs, those from ethnic minorities and those who are gifted and talented. We were interested in the impact of support that is provided by a broad range of staff, including TAs (and those with equivalent roles and job titles), learning mentors, technical support staff, and teachers whose role was to work alongside their colleagues in supporting students in mainstream schools. The majority of studies referred to the work of TAs or their equivalents. In exploring the impact of paid adult support on learning we defined 'learning' as including academic, personal and social learning. Participation was defined in terms of pupils' participation in the culture, curricula and community of the schools.

Finally we considered two types of impact that support staff could have. Firstly we looked at studies on impact that was related to 'measured' change in pupils' learning and participation, and secondly we reviewed research in which the views of professionals, parents and pupils indicated that there were changes in the participation and learning of pupils following the introduction of paid adult support staff.

Taking all of this into account we had two interconnected review questions:

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

and

How does impact vary according to the type of support?

Answers to these questions would provide much needed evidence about the effectiveness of different types of support for a variety of pupils in primary and secondary mainstream schools. For example, they could indicate what the ingredients are in schools which are related to effective support; they could highlight areas in which there is a need for more targeted training of support staff and teachers; and they could throw light on the impact of different styles of support on learning and participation. Taken as a whole, they should be of interest to headteachers and local education authority (LEA) officers, schools' governing bodies and those involved in teacher training and the training of support staff. In particular, they should help to answer the question of whether the employment of paid adult support staff in schools, the vast majority of whom are not qualified teachers, represents value for money.

Methods

Identifying and describing studies

Inclusion criteria

We reviewed all studies which met all the following criteria:

- They were written in English.
- They reported on the results of empirical research (rather than purely theoretical or exhortatory reviews).
- They were concerned with pre-school and compulsory schooling in schools serving a wide range of children in their locality.
- They were primarily concerned with the perceived or 'measured' impact of paid adult support in those schools.
- They focused on the impact of this support on one or more aspects of pupils' participation and learning.

Exclusion criteria

We did not review studies for the following reasons:

- They were not written in English.
- They were purely theoretical or exhortatory reviews of the field.
- They focused on support in independent schools, special schools, withdrawal units, off-site units and other forms of 'alternative' provision.
- They concerned voluntary support, support offered by virtue of specialist professional training (such as educational psychologists or physiotherapists) or support offered by school aged peers.

Search strategy

The main strand in the search strategy was a search of electronic databases covering books, journal articles, conference papers and proceedings, theses, dissertations and reports. Test searches showed that keywords relating to

'school' and 'support', together with a long list of terms for 'participation / learning' were sufficient as keywords. In addition, personal contacts within the Review and Advisory Groups were able to identify and in some cases supply relevant and ongoing research studies and to suggest sources of unpublished/grey literature. Journals which yielded a number of significant articles were handsearched to check for other studies. Searches were also carried out of websites of national and international organisations which commission and publish research in the field of inclusive education.

Mapping of studies

The inclusion/exclusion criteria were not all straightforward to apply and necessitated a detailed reading of a relatively large number of studies. Such difficulties had been anticipated early on during early discussions, and inclusion criteria went through a series of 'qualitative' refinements to sharpen the focus of the review before the systematic map was completed. Mapping was carried out using the keywording proforma developed by the EPPI-Centre, and this was supplemented by a review-specific keywording proforma developed by the Inclusion Review Group, which categorised studies according to the pupils on whom the support focused, the categories of support personnel involved, the area of support offered, the type of impact claimed and the data supporting that impact, whether based on perceptions or on direct measures and observations.

In-depth review and weight of evidence

Studies included in the final in-depth stage of review were subject to a rigorous examination using EPPI-Centre and review-specific data-extraction tools. Key elements (such as aims, methodology, context, results and conclusions) were described and, at the same time, judgements were made as to the quality of the reported study in terms of the adequacy of description, the appropriateness of methods used, and the apparent thoroughness and care taken with these methods in that context. These judgements were used to determine a 'weight of evidence' composed of three sections: the trustworthiness of the reported study, the appropriateness of design and analysis as reported, and the relevance of the focus of the study to answering the review question.

Synthesis of evidence

A process of clustering studies was central to the synthesis. Studies were examined and placed provisionally into a number of groups, each of which seemed to illuminate a distinctive dimension of impact. Clearly, there is not just one way of clustering studies to highlight similarities and differences between them, and so we were flexible in forming clusters, and open to changing an emergent cluster if it became clear that there was a better way of bringing out contradictions and themes.

Results

Identifying studies for in-depth review

All studies included in the in-depth review had passed the inclusion and exclusion criteria, and were therefore empirical studies drawing on systematically generated

data. However, not all these studies represented good practice with respect to design, implementation *and* reporting. Equally significantly, all these studies addressed the research questions, partially in some cases or in such a way as to broaden our interpretation of impact as applied to paid adult support. This being the case, the final stage of inclusion and exclusion was an iterative process, in which the definition of impact was further sharpened and refined against studies which were possible candidates for inclusion. Similarly, definitions about what counted as evidence of impact were also sharpened slightly, with the result that some further studies were excluded. This process of deciding on the studies to be included in the review began with the screening of titles and abstracts. This resulted in 114 different studies being considered potentially relevant. Of these 111 complete documents were studied which led to a further reduction to a list of 67 studies that were subject to keywording. On closer examination of these studies, 43 were rejected and we were left with 24 that were used in the descriptive map and in-depth review.

Dimensions of impact

At the most straightforward level, impact is about whether paid adult support makes a difference, and if so, what and how, and to whom? However, impact is a deceptively simple notion. Engaging with the range of studies in this area, it became clear that there are many elements or, as we have termed them, dimensions, to consider when trying to understand the effectiveness of paid adult support.

The studies could have been grouped in many ways, but through a process of comparison and contrast, we have presented these dimensions as four clusters of studies. Each cluster explores a particular dimension of impact, and synthesises a broad range of quantitative and qualitative evidence, including test scores, ratings scales and staff and student perceptions. Although these clusters are interconnected, the clustering structure leads to a deeper understanding of the dimensions of the impact of support. The structure raises rather than hides tensions between the findings of the different studies, and leads to suggestions on how these might be resolved.

The four clusters of studies explore the following:

- A The impact of paid adult support on the inclusion of students seen as having Special Educational Needs (SEN)
- B The effect of general support on overall achievement
- C Socio-cultural aspects of the impact of paid adult support
- D The detail of effective paid adult support practice

Cluster A: Paid adult support and the inclusion of pupils with SEN

General findings

Studies in this cluster indicate that the positive or negative perceptions that teachers and pupils may have about SEN pupils and paid adult support staff can directly impact on the inclusiveness of the schools and the participation of its pupils. Indeed the strongest evidence of the impact of paid adult support that emerges from this cluster concerns the impact of this support on pupil participation. In these studies, the participation of SEN pupils in mainstream classes is directly related to the efforts of paid adult support staff. In addition, strong evidence emerges supporting the notion that paid adult support staff are generally important and useful in promoting inclusion and that they directly impact on pupils' participation. These findings are evident in all of the studies reviewed in

this cluster and therefore have a general relevance, as each study looked at the provision of SEN inclusion in a different context.

Key Points: Cluster A

Paid adult support staff can be effective mediators or ‘connectors’ between different groups and individuals in the school community.

Paid adult support staff who are valued, respected and well integrated members of an educational team are seen as positively impacting on the inclusion of SEN pupils in mainstream classrooms, particularly in regard to these pupils’ participation.

Paid adult support staff who are not valued and not included with teachers and school management in the decision-making process are seen as being less effective in promoting the inclusion and participation of SEN pupils.

Paid adult support staff can sometimes be seen as stigmatising the pupils they support.

Paid adult support staff can sometimes thwart inclusion by working in relative isolation with the pupils they are supporting and by not helping their pupils, other pupils in the class and the classroom teacher to interact with each other.

Paid adult support staff are generally seen as having a positive impact on the inclusion of pupils with SEN and this has been reflected by parents, teachers and pupils.

Cluster B: Effect of paid adult support on overall achievement

General findings

This cluster focuses on attainment as a significant part of the exploration of impact. There are two large-scale quantitative studies in the cluster in which the findings indicate that the impact of paid adult support on general attainment is small. These two studies, however, also suggest that the focus on attainment represents a limited notion of impact, and that the impact of different ways of working, or on working with particular groups, or on the characteristics of learners which cannot be interpreted from general attainment scores, may be just as significant. Other smaller scale studies in this cluster support the notion that paid adult support staff can and do have an effect on the learning of particular groups of pupils, depending on the way that they work and the kind of effect that is under scrutiny.

Key Points: Cluster B

Paid adult support shows no consistent or clear overall effect on class attainment scores.

Paid adult support may have an impact on individual but not class test scores.

Most studies do not distinguish between all the ways in which paid adult support staff can work with students.

Qualitative evidence of impact is much more positive. The perceptions of participants in the same studies that indicate little impact of paid adult support on general attainment, stress the significant effect on attainment that support staff can have.

Cluster C: Sociocultural issues on impact

General findings

The studies in this cluster emphasise the important roles paid adult support staff play as mediators. There are strong suggestions that this mediation is a key element in promoting pupils’ participation and learning. Paid adult support staff mediate in various ways; between a number of groups, individuals, interests and understandings. This is described as ‘effective sociocultural mediation’ where

support staff mediate between pupils and teachers, and between pupils and other pupils, and they can tune in to pupils' cultural identities in their local communities and the dominant culture of a school and its curriculum.

All studies in this cluster suggest that the more paid adult support staff understand and can tap into the sociocultural aspects of their pupils' lives, the more impact they can have on pupils' learning and participation. There are findings from the research in this cluster which highlight some of the factors that contribute to paid adult support staff's effective sociocultural mediation. These studies suggest that, when paid adult support staff have detailed, personal knowledge of the pupils they support (knowledge of language, culture, interests, family, history, behaviour, or any combination of these) and can utilise this knowledge to engage these pupils in learning and participating, they have a clear and positive impact.

Key Points: Cluster C

Sociocultural aspects of pupils' lives and the school community are important, but often neglected elements of the thinking about paid adult support staff's impact on pupils' learning and participation.

Paid adult support staff fulfil important roles as mediators in a number of contexts, as they mediate between pupils, teachers, specialists, parents and even different cultures.

Knowledge of pupils' cultures, behaviours, languages and interests can be utilised by paid adult support staff to have a positive impact on pupils' learning and participation.

Cluster D: The detail of effective paid adult support practice

General findings

Each study in this cluster describes elements of the roles taken by support staff, and attempts to trace the relationship between these roles and the learning and participation of particular pupils. In this way, the cluster highlights a question implicit in the notion of 'support' - support for what? Lack of clarity over this question appears to give rise to various unintended consequences. Most significantly, there is evidence from several studies of a tension between paid adult support behaviour that contributes to short-term changes in pupils, and those which are associated with the longer-term developments of pupils as learners. Paid adult support strategies associated with on-task behaviour in the short term do not necessarily help pupils to construct their own identity as learners, and some studies in this cluster suggest that in such strategies can actively hinder this process.

Key Points: Cluster D

Paid adult support staff can positively affect on-task behaviour of students through their close proximity.

Continuous close proximity of paid adult support can have unintended, negative effects on longer-term aspects of pupil participation and teacher engagement. Less engaged teachers can be associated with the isolation of both students with disabilities and their support staff, insular relationships between paid adult support staff and students, and stigmatisation of pupils who come to reject the close proximity of paid adult support.

Summary and conclusions

Bringing together the key points from each of the clusters, it is possible to draw out three overlapping themes.

1. The relative importance of raising standards and engagement in learning

The two large-scale quantitative studies in Cluster B show no consistent or clear overall effect on overall class attainment scores. However, the studies in Cluster A show that paid adult support staff who are valued, respected and well integrated members of an educational team are seen as positively impacting on the inclusion of SEN pupils in mainstream classrooms, particularly with regard to these pupils' participation, and this has been reflected by parents, teachers and pupils. Even in studies in Cluster B where impact on general standards is seen to be low, the perceptions of participants indicate a significant effect. It seems that paid adult support may provide important attention and support to specific students, affecting individual but not class test scores.

2. The risk of marginalisation

Paid adult support staff can sometimes thwart actual inclusion by working in relative isolation with the pupils they are supporting and by not helping their pupils, other pupils in the class and the classroom teacher to connect and engage together (Cluster A). Continuous close proximity of paid adult support can have unintended, negative effects on longer-term aspects of pupil participation and teacher engagement (Cluster D).

3. The mediation role

Paid adult support staff can be effective mediators or 'connectors' between different groups and individuals in the school community (Cluster A). Cluster C develops this idea, showing how paid adult support staff play important roles in mediating between pupils, teachers, specialists, parents and even different cultures. Their impact on pupils' learning and participation should be seen in relation to the social and cultural dimension of pupils' lives and the school community, because their knowledge of pupils' cultures, behaviours, languages and interests can be utilised by paid adult support staff to have a positive impact on the pupils' learning and participation.

Implications

There are a number of implications for policy, practice and research that emanate from this review.

In relation to policy, despite some of the recent concerns expressed by the teaching unions, it is almost certain that the numbers of staff being employed as support workers in mainstream schools will continue to grow. Balshaw and Farrell (2002) suggest that this rapid growth in the number of support staff and their constantly evolving roles has been allowed to take place within a policy vacuum both in the UK and overseas. One key consequence of this is that, by and large, the salary and conditions of service of support staff are far inferior to their teacher colleagues. Given these unfavourable employment conditions, it is perhaps surprising that this review identified 'qualitative' evidence of the positive impact of paid adult support. On this basis it is possible that, if the conditions of service and career structures improved, support staff would have an even greater impact in supporting the learning and participation of children than they do already.

Therefore from a policy perspective the findings of this review and from other reports indicate the following:

- LEAs and schools should continue to employ support staff to work alongside teachers in mainstream classes.
- A nationally agreed structure for salary and conditions of service should be developed so that that job of a TA can be viewed as a profession in its own right.
- There should be an agreed procedure whereby TAs can, if they so wish, progress from being assistants to properly qualified teachers, without having to undergo a traditional four-year degree programme.
- Policies for training assistants and teachers who work with them should be continually reviewed. New entrants to the profession should be equipped with the necessary skills and knowledge to make an effective contribution right from the start; they should be provided with sufficient induction and in-service training opportunities; and there should be regular opportunities for teachers and assistants to undergo joint training.

In relation to practice, this review echoes the literature on the tensions that exist between the value of one-to-one and group support. The way support is provided to pupils in mainstream schools is central to the debate about developing effective inclusive practices. There is evidence that an overuse of one-to-one support can have a negative impact on participation. However, many pupils have major learning difficulties and require one-to-one attention for parts of the day in order for them to learn. Therefore, when planning individual programmes, it is important to combine individualised instruction, either in class or on a withdrawal basis, with supported group work in mainstream classes that facilitates their participation in a peer group. This balance of work is not easy to achieve and inevitably some compromises have to be made. Support staff and teachers therefore need to be sensitive to the needs and wishes of all students and to review the situation frequently. In order to work in this way, it is important for support staff, teachers and, where appropriate, pupils to work together in planning and implementing programmes of work.

Therefore, from the point of view of developing effective classroom practice the findings of this review suggest the following:

- When planning individual programmes, one-to-one teaching, either in class or on a withdrawal basis, should be combined with supported group work in mainstream classes that facilitates all pupils' participation in peer group activities.
- Support staff and teachers need to be sensitive to the needs and wishes of all students and to review the situation frequently in order to achieve the right balance of individual and group work. Inevitably some compromises have to be made.
- It is important for support staff, teachers, and where appropriate pupils, to work together in planning and implementing programmes of work.
- Senior staff in schools need to allocate sufficient time for this planning to take place.

In relation to research, the two large-scale statistical studies showed little or no evidence that the presence of TAs in the classroom had any impact on raising pupil attainment. This finding contradicts the evidence produced by Ofsted reports and the many anecdotal accounts from teachers, TAs, parents and pupils (see Balshaw and Farrell, 2002). Other studies in the review suggest that well-designed, coordinated, small-scale research projects using a variety of different

approaches can demonstrate how paid adult support staff can have a substantial impact on learning and participation. These studies also throw light on the relationships between types of support, the focus of that support, and the learning and participation of pupils. The contrasting findings are, in part, a consequence of the methodology adopted. Large-scale studies inevitably mask many of the complex aspects of practice that can lead to individuals making excellent progress. Small-scale studies, however methodologically sound, do not allow us to make generalisations across large populations. There is clearly a need for further large-scale studies to be designed in such a way that they are sensitive to the range of factors that can affect learning and participation.

From a research perspective, therefore, the findings of this review suggest the following:

- There is scope for a broad range of methodologies, all of which need to be explicit about the approaches that they used and to justify them fully. However, it is also important not to make exaggerated claims from the findings. Findings from smaller-scale studies should continually be synthesised in an attempt to arrive at more generalisable conclusions about impact.
- The outcomes of more rigorous research should be set alongside the more anecdotal accounts from teachers and parents about the vitally important role that support staff play in schools. If teachers, pupils and parents believe that paid adult support staff are of value, then the quality of working relationships between those involved is likely to increase their positive impact.
- There is scope for more, larger-scale 'rigorous' systematic studies that focus on the views of teachers and assistants about the role of support staff. This might be done by carrying out a major postal and interview survey in which staff were asked to complete a series of questions about different aspects of support. Staff from different types of mainstream schools could be surveyed and their findings be contrasted with those from staff in special schools. The benefits from carrying out such a large-scale survey might offset the problems that would inevitably follow from such a study that relate to the lack of sensitivity to individual contexts in which support is carried out.
- Despite the methodological concerns reflected above, it is still important to design good quality trials of different interventions in which a number of variables (for example, the type of SEN, hours of support and the educational setting) are controlled and to assess the impact, perceived or 'measured', on the pupils. In addition, it would be important to look at the correlation between perceived and measured impact. Such studies might also reveal contradictory evidence of impact: for example, when pupils show measurable gains in attainment but increased levels of anxiety.
- There is a lack of research that has systematically sought pupils' views about the types of support that they most value. Given the nature of the pupils that are supported, such a study would have to employ a mixture of methods but would almost certainly rely on individual interviews and focus groups. From a large-scale study of this sort, it might be possible to draw comparisons between different groups of learners at different ages about the nature of the support that they feel is most beneficial.
- Further research is also needed on the views of non-supported pupils about the role of paid adult support and on whether or how these views might effect the contribution that the support staff can make.

Strengths and limitations of the review

One of the key strengths of this review, in the opinion of the authors, is that it addresses a highly topical question that has been little explored in literature reviews. In addition, because of the way in which the synthesis has been conducted, the evidence that exists which illuminates the question has been utilised to good effect. There are, however, also significant limitations. It is possible that significant studies have been missed through restrictions on language and through potential inadequacies in searching. In addition more complete information on the number of studies considered at each stage of the searching process would have demonstrated greater reliability in the process. Also, there are out of necessity a series of compromises to be made in applying the rigorous procedures of systematic review to end up with a useful product which deals with a question on which relatively little primary research has been conducted. For example, we consider that the construction of clusters of studies is a useful device in terms of developing understanding of impact in this area, but this clustering would not make sense if the studies which had relatively low weight of evidence were not used to strengthen the dimensions being established through this approach.

1. BACKGROUND

This section summarises the policy, practice and research backgrounds in this area, and summarises the background of those involved in the review. The review questions are then stated and related definitional issues are discussed.

1.1 Aims and rationale for the current review

In 2000 the Department for Education and Skills (DfES) published the *Good Practice Guide on Working with Teaching Assistants* (DfES, 2000a). This recognised the increasingly valuable and supportive role that teaching assistants (TAs) can have in mainstream schools. Indeed, the Guide refers to Her Majesty's Inspectorate (HMI) reports 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 is strongly endorsed by the Government's consultation paper on the work of school support staff (DfES, 2002).

The term 'paid adult support' is used throughout the review when referring to the support offered to pupils and teachers in mainstream schools, in order to avoid excluding other professionals who provide such support. However, as it turned out, the vast majority of literature that we reviewed referred to the work of TAs or their equivalent. Section 1.3 provides a brief policy-level overview of the developing role of TAs and considers the work of other staff who support teachers in classrooms. Section 1.4 provides a very brief research context in this area.

1.2 Definitional and conceptual issues

At the most straightforward level, impact is about whether paid adult support makes a difference, and if so, what and how, and to whom? This review concerns particularly the impact on the participation and learning of potentially marginalised groups or individual children and young people in school.

However, although impact is much discussed in policy debates, it is a deceptively simple notion. The process of engaging with the range of studies in this area through this review demonstrates that there are many elements or dimensions to consider when trying to understand the effectiveness of paid adult support. One of the key contributions of this review may be towards greater clarity in respect of this idea of impact.

1.3 Policy and practice background

The review is timely, considering the recent publicity about the role of TAs in schools. Some teachers' unions, for example, have expressed concern about the possibility of employers appointing TAs instead of teachers as a cost-cutting

exercise and they view the fact that TAs may be allowed to take sole charge of classes as the thin edge of the wedge. Therefore, instead of being seen as a valuable resource to support teaching and learning in schools, TAs could now be viewed as a threat to the development of the teaching profession. The findings of this review in relation to the potential impact that TAs can have on pupils' learning and participation in schools is therefore of direct relevance to this debate.

In the past 10 years, there has been a rapid growth in the numbers of 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 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 mirrors schools' and LEAs' growing commitment towards inclusion. Building on these developments, the subsequent Green Paper, *Teachers Meeting the Challenge of Change* (DfES, 1998), refers to the projected increase of 20,000 in the numbers of classroom assistants who will 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. Finally, the recent Government consultation paper on the role of school support staff (DfES, 2002) indicated that there were over 100,000 TAs working in schools – an increase of over 50 percent since 1997. Indeed it is now not uncommon for there to be as many assistants as there are qualified teachers in many primary schools. There are also many secondary schools in which there are over 20 TAs undertaking a range of different and often quite complex tasks.

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. More recently, 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 LEAs 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.

The Government has recently explicitly recognised the valuable and supportive role that TAs can play. The *Good Practice Guide* (DfES, 2000a) and the consultation document (DfES, 2002) are only two examples of this. Others include the two induction training materials for newly appointed TAs in primary and secondary schools (DfES, 2000b; 2001). These are available in every LEA and are being used extensively. In addition, they have supported the work of the Local Government National Training Organisation (LGNTO) which has recently devised a set of occupational standards for TAs (LGNTO, 2001).

1.4 Research background

The assumption, implicit in UK government policy, that TAs can help to raise standards in schools, forms the background for this EPPI review. Although HMI reports and other publications refer to the vitally important role of TAs and other support staff, as Giangreco *et al.* (2001a) point out, to date there has been no systematic review of international literature that has focused on the key question of whether the presence of support staff in classrooms has an impact on raising standards. Giangreco *et al.* (2001a) focus on studies of support for children with disabilities, finding that these are an increasing proportion of the literature on paid adult support over the previous decade. The review emphasises the need for more student outcome data, strengthening the notion that recent studies in this direction are a new development. It also looks for more 'conceptual alignment of roles' with more consideration given to ways of working between teachers and support staff. Little information is available about the potential impact of support staff on improving the behaviour and social adjustment of children or in increasing their participation in the general activities of schools and classrooms.

On the whole, despite the recent concerns expressed by some teachers' unions, the rise in the number of TAs now working in schools has been seen as a positive development. Indeed a number of publications have reported on the benefits that TAs can bring to schools (see, 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 there are several books and journal articles that report on the developing work of TAs (see, for example, CSIE, 2000; Jerwood, 1999; Rose, 2000; Thomas *et al.*, 1998). There are also a number of books that are devoted exclusively to ways in which teachers and assistants can work together to support pupils. Of these, perhaps those written by Balshaw (1999), Lorenz (1998) and Fox (1993, 1998) have had the most impact. There have been several reviews of literature on the role and impact of paid adult support. Clayton (1993) provides 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 carried out a selective literature review on TAs (GTC, 2002) which includes two studies of impact. It brings 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 between 31 and 50 years of age) and the general level of job satisfaction and motivation of TAs which is consistently reported.

Compared with the literature on TAs, there are far fewer publications referring to the growth in numbers and expansion of the role of other support staff. The DfES consultation document (DfES, 2002) indicates that by far the greatest expansion has been in the number of TAs supporting pupils with a range of diverse needs and not only those with SEN. However, in the last few years, a number of learning mentors have been employed in schools that are part of the Excellence in Cities initiative and, according to the DfES (2002), there has been a growth in the number of 'other support staff', a rather vague category that includes child care staff from boarding schools, matrons/nurses and medical staff and other 'uncategorised' staff. The consultation document states that there are now as many as 216,000 fulltime equivalent support staff in schools. As we point out below, we do not focus on the work of all types of support staff who make up these numbers.

1.5 Review questions

This review begins with two questions:

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

and

How does impact vary according to the type of support?

The review questions are relatively narrow in focus, particularly compared with the questions for the first review by the Inclusion Review Group (Dyson *et al.*, 2002). Where the first review addressed the question of action at the whole school level, the present review focuses on the impact of an element of support for inclusion at the classroom level. The review draws attention to ways in which paid adult support contributes to or hinders the participation and learning of pupils in mainstream schools. Nevertheless, the evidence sought in the literature is wide-ranging, from measurement of pupil outcomes to perceptions of those involved in their education (e.g. teachers, support staff, parents or the pupils themselves).

1.6 Authors, funders and other users of the review

This is the second EPPI review that has been carried out on behalf of the Inclusion Review Group. Members of this group include academics and research staff who have recently completed the Economic and Social Research Council (ESRC) funded research Network project on understanding and developing inclusive schools. This EPPI review has been led by Dr Andy Howes with support from Professor Peter Farrell. They have been helped by two part-time research assistants, Mr Ian Kaplan and Ms Sharon Moss. All four members of the core review team work at in the Faculty of Education, University of Manchester. The ESRC network project has uncovered a range of issues indicating that the role of paid adult support in the classroom is linked in many complex ways to the development of inclusive practices and to raising the achievement of all pupils, and to this extent this review builds on the work of the Network. In addition, Professor Farrell has conducted a project for the DfES in this area and has also carried out a number of action research projects in schools that have focused on the role of TAs.

The review team benefited from the support of an Advisory Group that comprised other academics from the ESRC Network team and other institutions, the editor of a key UK journal in the area, and teachers and support staff from local schools. At all times they have shown a great deal of interest in the outcome of the review.

2. METHODS USED IN THE REVIEW

This section describes how the review was carried out according to EPPI-Centre guidelines. Starting from a tightly focused review question, studies were identified and screened according to inclusion and exclusion criteria. Those studies appearing to meet the inclusion criteria were keyworded and then subjected to additional scrutiny. This meant that further studies were excluded, with a number of studies then being subject to both the systematic map and in-depth review.

2.1 User involvement

For the review to be meaningful and useful to educational practitioners – including paid adult support staff, teachers and others working in schools – it was desirable that they should contribute to the review at any point where their particular perspectives could contribute significantly to the process, without imposing unreasonable demands on their time and energy. This occurred at three points.

Firstly, two teachers and two paid adult support staff were invited to join the Advisory Group. They contributed in a practical and important way, sharpening the issues involved, particularly at the key meeting of the Advisory Group in October 2002.

Secondly, a group of educational practitioners studying for their doctorate in Educational Psychology at the University of Manchester were invited to take part in the data-extraction process, and trained in how to do so by a member of the Review Group. Six did so and used the tools with great care; they noted that they found useful links between studies and their own work. Their contribution added to the resources that the review draws on as well as confirmed the relevance of the studies and the questions for practitioners in the field.

Finally, immediately after the synthesis stage, a conference was arranged based on the emerging findings, at which teachers and learning support staff were invited to engage with the findings and discuss the relevance to their practice.

2.2 Identifying and describing studies

This section describes the procedures that were set up in order to locate potentially relevant research studies and then determine whether they should be included in the review or not. In order to manage the large number of studies identified through the searching process, all potentially relevant studies were added to an Endnote bibliographic database, and particular database fields were used to record information about the date the study had been located, the search database used and the person doing the searching, and any other immediately useful information. The Endnote database was the central tool for managing studies and, as the inclusion and exclusion criteria were applied, excluded studies were moved from an 'include' file to an 'exclude' file.

2.2.1 Defining relevant studies: inclusion and exclusion criteria

Inclusion criteria

We reviewed all studies which met all the following criteria:

- They were written in the English language, given limitations on resources available for the review.
- They reported on the results of empirical research (see exclusion criteria below).
- They were concerned with pre-school and compulsory schooling in schools serving a wide range of children in their locality.
- They were primarily concerned with the perceived and 'measured' impact of paid adult support in those schools.
- They concerned the impact of this support on an aspect of pupils' participation and/ or one or more aspects of pupils' learning (progress or active engagement in learning activities).

Exclusion criteria

The following studies were excluded from the review:

- Those that provided purely theoretical or exhortatory accounts of benefits, or otherwise, of paid adult support. This would include, for example, articles reflecting on changes to the social psychology of classrooms following the introduction of support staff and those that simply advocated enthusiastically for more support. It is helpful to look at the notion of 'empirical' with reference to a large group of studies in this particular field, which draw heavily on the professional judgement of the authors, who may be practitioners in the field. Having embedded a notion of 'perceived impact' alongside 'measured impact' in our inclusion criteria, we needed a framework to analyse the empirical adequacy of those studies which presented perceptions of impact. We recognised and did not want automatically to exclude studies based substantially on informed, professional judgement and only partially on 'measures', longitudinal or in-depth accounts of particular contexts. Of these studies, we asked to what degree people's perceptions were referenced and linked to theirs or others' observations or other data, as a way of judging how far the account avoided selectivity. We excluded studies that were based on perceptions of practitioners, however experienced, where they lacked any accompanying and substantiating evidence. Such studies were considered not to be empirical.
- Those that offered anecdotal impressions of the impact of support in schools. Some of this is in the form of case studies. Unless there was evidence that these accounts were based on research evidence that had been systematically collected and analysed, these were excluded from the review.
- Literature that traces the growth and development in the numbers of TAs and other support staff, and/or provides data about their training needs, the way they are managed or their conditions of service was excluded from the review. The only exception was for those studies that show how any one of these factors might have an impact on the learning and participation of pupils. Therefore a study that gave an account of a new training course for TAs and provided evidence that, as a result of them attending a course, the pupils for whom the TAs were responsible made measurable progress in learning would be included. Similarly a study that could demonstrate a link between changing the job description for a TA and improvements in pupils' learning and participation would be included.
- Research studies where paid adult support was not the central concern. Studies reporting one-to-one tuition as part of a programme of intervention

without any attempt to distinguish between the impact of the paid adult support from other factors such as pupil groupings, teaching materials, and curriculum interventions.

- Research studies where the support offered was from other 'helping' professions, for example educational psychologists, speech and language therapists and occupational therapists.
- Research that took place in independent schools, withdrawal units, off-site units and other forms of special provision.
- Research that took place in post-16 educational provision.

Using these criteria with consistency depends on agreement on the following definitions of central concepts and constructs.

Inclusion

As the growth of paid adult support (PAS) mirrors international developments in thinking and practice in the area of inclusive education, it is important to be clear about how inclusion is defined for the purposes of this review. Farrell and Ainscow (2002) provide a full discussion of the development of the concept of inclusion and in so doing highlight some of the complexities and the ongoing uncertainty that exist among practitioners and policy-makers. Despite many competing views about inclusion, the general view that has emerged over the past few years is that it is not restricted to the education of pupils with special needs but has a much wider focus and is inexorably linked with the debate about what makes an effective school. This broader view of inclusion is reflected in recent guidance from Ofsted inspectors and schools (Ofsted, 2000). In addressing what is referred to as 'educational inclusion', the document focuses attention on a wide range of vulnerable groups, such as those who speak English as an additional language, or those who are home carers. It states:

'An educationally inclusive school is one in which the teaching and learning, achievements, attitudes and well being of every young person matters. Effective schools are educationally inclusive schools. This shows, not only in their performance, but also in their ethos and their willingness to offer new opportunities to pupils who may have experienced previous difficulties... The most effective schools do not take educational inclusion for granted. They constantly monitor and evaluate the progress each pupil makes. They identify any pupils who may be missing out, difficult to engage, or feeling in some way apart from what the school seeks to provide' (Ofsted, 2000, p. 7).

The sentence 'the most effective schools are inclusive schools' is particularly significant. In essence, it redefines the way school effectiveness will be determined, drawing attention to the need for inspectors to go beyond an analysis of aggregate performance scores in order to determine the extent a school is supporting the learning of all individuals within a school.

The Ofsted guidance is therefore important for two reasons. First of all, it reinforces a much broader view of inclusion, in that the concept is widened to include pupils other than those thought to have SEN. Secondly, it focuses attention in schools on the achievements of all of their pupils and, indeed, on the need to pay attention to a wider range of outcomes than those reflected in test or examination results.

The Ofsted definition is reflected in the *Index for Inclusion* (Booth *et al.*, 2000).

- Inclusion in education involves the processes of increasing the participation of students in, and reducing their exclusion from, the cultures, curricula and communities of local schools.
- Inclusion involves restructuring the cultures, policies and practices in schools so that they respond to the diversity of students in their locality.
- Inclusion is concerned with the learning and participation of all students vulnerable to exclusionary pressures, not only those with impairments or those who are categorised as 'having special educational needs'. (p.12)

In this review, we have considered all outputs that focus on the role of support staff whose work falls within this general inclusive orientation.

Paid adult support

There is a whole range of different professionals who support teachers in schools. Sometimes the job title reflects the job status and qualification needed to do the work. In addition, the title may indicate the level and type of support that is expected of that professional. However, there are many occasions when support staff with different names, conditions of service, qualifications and salary are all required to broadly do the same job. Therefore the job title may be irrelevant to the support that is offered. It is for this reason that we have opted for a broad definition of support to include any adult who is paid to work alongside the regular teachers in schools and classrooms. Clearly, teaching assistants (TAs) come within this definition. This group alone contains professionals with a whole variety of names: for example, non-teaching assistant, classroom assistant, special support assistant, para-professional; see Balshaw and Farrell (2002) for a review of job titles given to TAs. In addition, the work of nursery nurses, bilingual support assistants and language assistants comes under the category of paid adult support as do learning mentors, although, as this is a relatively new group, there is little literature that refers to their work. Studies of other support staff who mainly work in secondary schools – for example, technical support staff, science or design and technology technicians and music specialists – would be included in the review. We have also included the support offered by qualified teachers if they clearly take a role in the school or classroom that is similar to that of other support staff.

We have excluded the following from the review: support that is offered by other professionals (e.g. speech and language therapists, educational psychologists, physiotherapists); support from volunteers, including parents, and support from school aged peers. Professionals with specific skills may have impact by virtue of those skills, and this would entail a much larger review. Volunteers may have similar impact to paid adult support, but they are not necessarily available and under the management of teachers and headteachers in the same way.

Learning

The review seeks out studies that are concerned with demonstrating impact on learning, defined here in terms of the progress that pupils make that is associated with the presence of paid adult support in the school. Learning here is divided into academic learning and other sorts of learning outcomes (e.g. personal, social and behavioural development). Impact on learning might come about through various strategies that are made possible through the use of paid adult support.

Participation

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 in having a contribution to decision-making. This review concerns the impact of paid adult support on these three aspects of participation. We anticipated that some relevant studies would focus on one or other of these aspects of participation (rather than holistically relating to all three), for example showing the impact of TAs on curricular access, or of learning mentors on the expectations of disaffected pupils in a school.

Evidence of impact

Impact on learning and participation is defined in two ways. Firstly, we consider studies that have 'measured' change in pupils in one or both of these areas. For example, studies that measure the progress in literacy (e.g. on a reading test) made by students following the introduction of a TA into the classroom are included. Similarly, a classroom observation study that indicated a measured increase in the participation in classroom activities of a marginalised group following the introduction of a learning mentor would be included.

Secondly, we consider studies in which professionals, parents or pupils report that, in their view, the learning and participation of students has increased following the introduction of paid adult support. In these studies, there may be no 'objective measure' of whether the students' learning and participation has changed. However, the professionals, parents or pupils may have provided detailed accounts of how pupils have changed and developed in these areas. For example, a survey of teachers might indicate that, in their view, pupils' attitudes to learning had improved in certain specified areas following the introduction of team of TAs to support the literacy strategy. Similarly a group of parents may report that their children had more friends as a result of the work that the assistants had been doing. Both these studies would be included in the review. By contrast, many excluded studies tended to focus on the changing roles and responsibilities of support staff, and to describe 'effective practice' without linking that to outcomes in pupil learning or participation.

The need for multiple ways of registering impact reflects the difficulty in identifying causality. We hoped that by juxtaposing studies using different approaches, along with the few studies which attempted to do both, the review would assist in strengthening understanding of the impact of paid adult support staff and provide a useful framework for claims about this impact in these and other studies.

Types of support

This is a broad category that includes a variety of types of support. Clearly support that is offered in the mainstream classroom alongside the teacher will be included. This could be one-to-one support or support to groups of children. It could also include taking over the majority of the class so that the teacher can spend time with a small group of potentially marginalised children. We also include studies where the support is provided out of the classroom: for example, in a withdrawal base, where it is evident that the withdrawal is to facilitate inclusion in the school. Support that is directed toward developing or adapting new programmes of work is included. We include studies of the impact of

general classroom support on all children as well as the impact on particular groups: for example, children with special needs, second language learners, gifted children and children with literacy difficulties. We include studies that focus on specific types of support using specialised equipment: for example, in the IT area or for pupils with visual and hearing impairments.

Types of school

Our concern was to identify studies of schools that are broadly comparable with the state primary and secondary schools in the UK with which the majority of users of this review will be concerned (i.e. children aged 5 to 16). We include studies of schools that serve a wide range of children in their locality (as defined in that national context). These will normally be mainstream (i.e. non-special) schools in the state sector. Selection of pupils on the basis of 'academic ability' was not an exclusion criterion, and denominational and faith schools were included on the grounds that they form an integral part of many mainstream state education systems. On these grounds, independent schools, withdrawal units, off-site units, special schools and other forms of 'alternative' provision are excluded.

Besides the need for agreement in respect of these concepts, there was a practical consideration regarding the cut-off date. Setting a specific cut-off date was conceptually difficult, given that this was an international review and that the directions and rates of policy development varied greatly between countries. Fortunately, there were relatively early studies which dealt with the practice of paid adult support on which this review focuses. For these reasons, we decided not to apply a cut-off date in searching.

2.2.2 Identification of potential studies: search strategy

We designed a search strategy that would represent optimal use of database searching (dependent on the quality of database coding) backed up with some handsearching of likely journals. Descriptors of key articles (identified through research experience in the area) were used to formulate key search terms for use with electronic databases. The main strand in the search strategy was a search of electronic databases covering books, journal articles, conference papers and proceedings, theses, dissertations and reports. It involved the identification and combination of sets of search terms by which literature identified according to the protocol as relevant to the review has been classified within individual databases. Where databases have 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 list of databases searched by these methods, and the search terms used for the ERIC database is in Appendix 2.2. The searching process was checked with reference to other related literature reviews. Test searches showed that keywords relating to 'school' and 'support', together with a long list of terms for 'participation / learning' were sufficient as keywords. This strategy represented a wide-ranging search designed to find a high proportion of the relevant studies in the first instance. The search criteria related to pupil participation and learning, widely interpreted, served to exclude many papers which focused on the *role* of paid adult support rather than the impact.

In addition, personal contacts within the Review and Advisory Groups were able to identify and in some cases supply relevant and ongoing research studies and to suggest sources of unpublished/grey literature. Journals which yielded a number of significant articles were handsearched (see Appendix 2.3) and studies selected according to inclusion criteria as outlined in the protocol. Searches were

also carried out of websites, suggested by members of the Review and Advisory groups, of national and international organisations which commission and publish research in the field of inclusive education. Where such research could not be accessed electronically, contact was made with these organisations by mail and email.

2.2.3 Screening studies: applying inclusion and exclusion criteria

A high number of studies were identified through electronic searching, and most of these were excluded using a screening process, whereby titles and the abstracts of the studies were screened through the application of the inclusion criteria. For many of them, it was clear from the title that they should be excluded. Decisions on others required more detailed consideration of the abstract. Where the title was insufficient as the basis for a decision but no abstract was available, the full study was ordered.

2.2.4 Characterising included studies

Operationalising the inclusion/exclusion criteria outlined above was not a simple process, and required a detailed reading of a relatively large number of studies. Most particularly, the decision made at the meeting with the Review and Advisory Groups in October 2002 to include only studies which concerned the impact of paid adult support was hard to turn into a simple decision-making procedure. As a result of these and other discussions, the criteria went through a series of 'qualitative' refinements before a final set of studies was identified for inclusion in the systematic map. Mapping was carried out using the keywording proforma developed by the EPPI-Centre, supplemented by a review-specific keywording proforma developed by the Inclusion Review Group (see Appendix 2.4). Although categorisation of pupils is always problematic, we opted to try to define the focus of support, as to whether it most concerned pupils' underachievement, their behaviour, or disability. We wanted to know what support personnel were involved: for example, were they TAs or learning mentors? There was a need to judge the main impact on participation and learning: for example, was it on attainment or behaviour, attendance or illness?

Other questions for review-specific keywording concerned the data from which evidence on impact was constructed, such as national tests, teacher rating scales, or the results of systematic classroom observation. Data on perceptions of impact were categorised as coming from questionnaire or semi-structured interview, or other sources, and the source of those perceptions was significant: were they those of teachers or support staff, parents or pupils receiving support, or, equally significantly, other pupils? Finally we categorised the focus of support in terms of location: within the curriculum, or outside the classroom, for example. The number of studies mapped under each of these headings is given in section 3.2; the keywording strategy itself is included as Appendix 2.4.

2.2.5 Identifying and describing studies: quality assurance process

- Moderation of tools: The review team, advisory team and EPPI-Centre link staff trialled the inclusion/exclusion criteria and keywording tools on five sample studies. This helped to identify unnecessary ambiguities in the tools

and to develop a shared understanding.

- As the full inclusion/exclusion and keywording process began, a random sample of papers were selected for EPPI-Centre link staff to apply criteria to / keyword. This promoted training amongst review team members as well as giving EPPI-Centre staff a chance to 'experience' the process to inform the further development of tools.

2.3 In-depth review

2.3.1 Moving from broad characterisation (mapping) to in-depth review

All studies included in the descriptive map were also included in the in-depth review.

2.3.2 Detailed description of studies in the in-depth review

Full reports of the included studies were interrogated using a set of standard data-extraction questions. The data-extraction tool devised and revised by the EPPI-Centre was used together with review-specific questions. Two people independently described each study and then compared descriptions and analysis. Extensive summaries of data were included when using these tools, to inform the analysis and synthesis as richly as possible. We invited the assistance of a group of students and other staff to help in this process, widening participation in the review process. In each case, these volunteers acted as one of the reviewers, with a member of the core team completing the other part of the review.

Some modification of review-specific tools was undertaken, in response to comments from peer reviewers on the protocol, who reminded us of the need to interrogate reference in studies to the education, training and experience of those providing support. One peer reviewer in particular signalled the relevance of identifying the differential effect of particular government and other training initiatives on impact, and we agreed to attempt to identify this where possible. We attempted to avoid the assumption that support necessarily had a positive impact. Data-extraction questions looked for negative as well as positive impact of paid adult support: for example, 'on which of the following has support had a positive or negative impact?'

As noted earlier, the question of causality is problematic. We have attempted to judge the strength of claims about influence of paid adult support through two separate but related sections of the review-specific, data-extraction questions. The first concerns perceptions and the second concerns 'measurements' of various kinds. The final questions of the review-specific questions address this issue: 'Overall, what type of link is suggested between support and participation or learning? To what extent is it demonstrated?'

2.3.3 Assessing quality of studies and weight of evidence for the review question

A significant part of the in-depth review is directed towards coming to a judgement about the weight of evidence that each study contributes to answering the review questions. There are well-acknowledged difficulties in specifying precise criteria against which the quality of educational research can be judged. This is particularly the case if the criteria are intended to apply to all types of study, but is almost equally true if they are to apply only within particular types. This is because broad study types (case studies, surveys, ethnographies, etc.) encompass such a wide range of legitimate variation that *detailed* criteria are unlikely to apply meaningfully across studies. The quality of a study cannot always be judged by a summation of answers to specific questions about method and content.

Nonetheless, it has been necessary to reach a judgement about the *overall* quality of studies, and the data-extraction process made it possible to make a judgement about the quality and relevance of studies in terms of the review question. Given the difficulty of prescribing detailed criteria, we have relied on a judgement of 'fitness for purpose' in terms of design, conduct and interpretation, agreed between two reviewers. We do not suggest that this process has led to an objective assessment of quality or relevance, but it has prevented the idiosyncratic understanding of any one person from dominating the review.

We made use of the 'weight of evidence' tool (EPPI-Centre), a procedure for judging the weight of evidence of each study which provided 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 particular 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? We considered A, B and C equally in coming to this judgement.

2.3.4 Synthesis of evidence

The synthesis of findings was done according to a conceptual framework in which the nature of impact was a key concept. Impact on learning and participation was conceptualised in terms of effect both on classroom process and on learning outcomes of various kinds. The nature of support was seen to depend not only on role descriptions but also on support as it is actually experienced by pupils and teachers in classrooms.

The process of clustering studies which related to an emerging theme was central to the synthesis. Studies were examined and placed provisionally into a number of groups, each of which seemed to illuminate a distinctive dimension of impact. This process of comparing all studies with each other and thereby finding commonalities and differences between them is similar to the constant comparative method (Strauss and Corbin, 1990) as part of the development of

grounded theory. It is an iterative process: the theme of a group is progressively established as text is written which links the studies and, at some stage, it becomes clear that some studies fit more effectively in other clusters. Clearly, there is not just one way of clustering studies to highlight similarities and differences between them, and so it is important to remain flexible in forming clusters, and open to changing an emergent structure if it becomes clear that there is a better way of bringing out contradictions and themes.

There were a number of studies that were not included in this stage but whose findings were related to one of the clusters of studies. They do not contribute to the formation of the clusters that we have constructed, but we refer to some such studies where they illustrate and add strength to the themes emerging from the cluster.

We hope that the synthesis carried out in this way will enable school managers and governors, support staff, parents, and pupils to explore a range of questions about the impact of support.

2.3.5 In-depth review: quality assurance process

Several key features of the process contributed to quality assurance.

- Moderation of tools: The Review Group, together with EPPI-Centre link staff tried out both generic and review-specific, data-extraction tools on three sample studies. This served as a check on problems with the tools and to check on shared interpretations.
- Each study was data-extracted by two people from the Review Group, independently, who then negotiated agreement on their responses, combining them into a single agreed response to the study.
- As the full data-extraction process began, the EPPI-Centre link staff were involved as partners on a sample of six studies. This promoted training amongst review team members as well as facilitated the participation of EPPI-Centre staff relation to this review, to maintain connection with reviews in this field and to act as a further check on the quality of the processes being followed. In addition, they thereby experienced the use of the latest version of data-extraction tools for review, providing an opportunity for the continuing development of these tools to fit the purpose.

3. IDENTIFYING AND DESCRIBING STUDIES: RESULTS

This chapter describes the results of the first stage of the review, in which a total of 67 studies were keyworded before 43 were excluded and a final 24 were used to describe the research literature investigating the impact of paid adult support on participation and learning of pupils in mainstream school.

3.1 Studies included from searching and screening

The diagram overleaf shows the flow of studies through the review as inclusion and exclusion criteria were applied at various stages. It also gives an analysis of reasons for exclusion of studies at each stage. As elsewhere in the review, PAS is our abbreviation for 'paid adult support'.

3.2 Characteristics of included studies

Figure 3.1 shows that at the first two stages of decision-making about studies, the most common criterion against which studies were excluded was because they did not refer to PAS in schools; this reflects the difficulty of identifying studies through electronic searching in this field. Eventually, just 24 studies were included in the systematic map. The following tables show the number of studies categorised according to EPPI study type, and according to each of the review-specific keywords. Additional information about studies in the systematic map and in-depth review are shown in Appendix 3.1, with additional frequency charts in Appendix 3.2.

Table 3.1: Study type of included studies

Type of study	Number of studies*
Description	11
Exploration of relationships	4
Evaluation: naturally occurring	4
Evaluation: researcher-manipulated	5

* Codes for 24 studies, categories are mutually exclusive.

The type of each included study is recorded in Appendix 3.1.

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

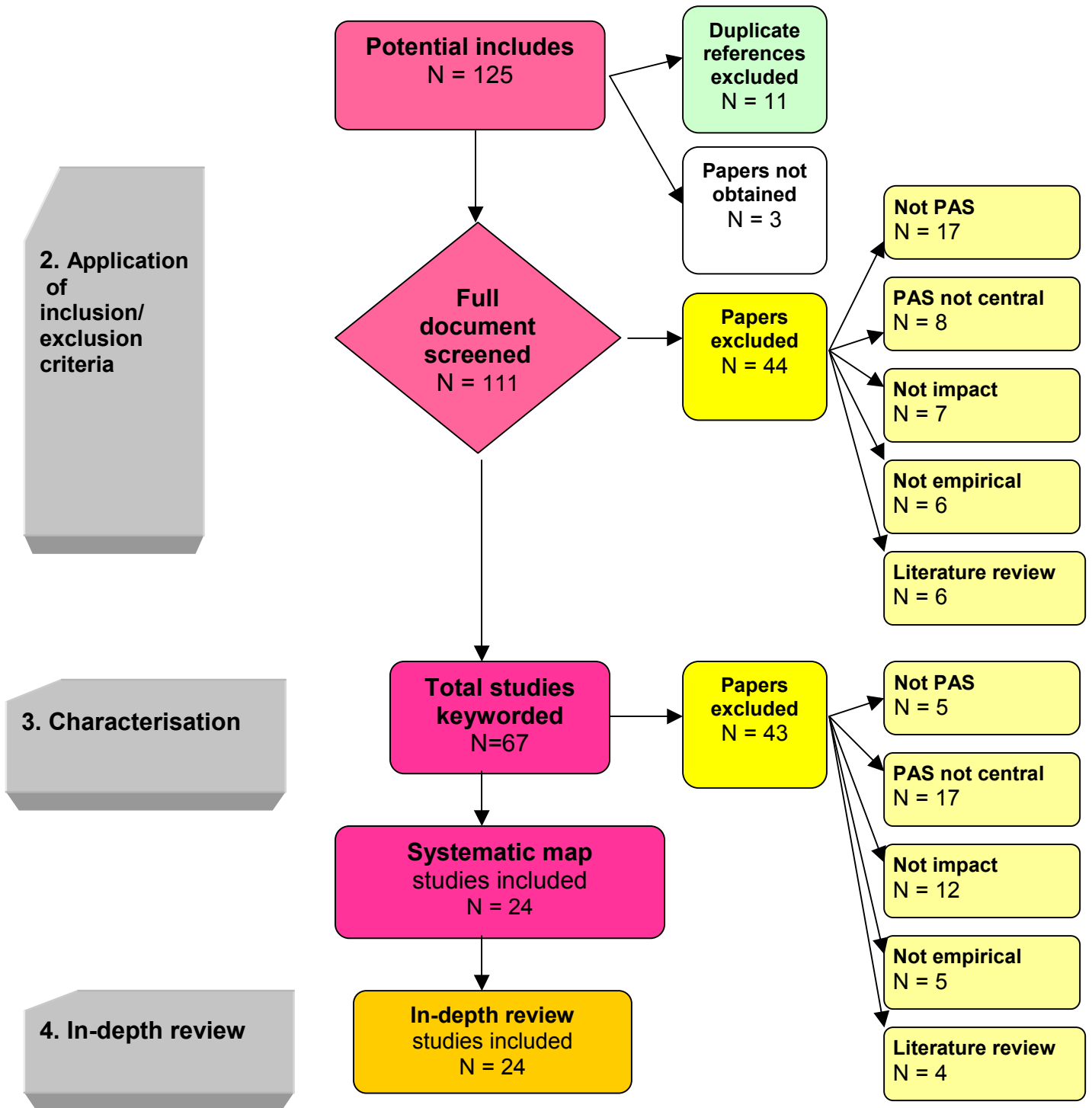


Table 3.2: Characteristics of included studies by review-specific keyword

Who is being supported*?		Whose perceptions about impact are so described*?	
Underachievement: pupils whose achievement causes concern	3	Pupil receiving support	4
Behaviour: pupils whose behaviour causes concern	5	Other pupils	2
Disability or SEN: pupils whose disability or special educational need gives rise to a need for support	12	Support staff	12
General: pupils who benefit from additional support not as through any particular characteristic or experience	10	Teachers	12
Other	3	Parents	3
Not clear	1	School leadership	5
On which of the following has support had a positive or negative impact?		External (LEA or university personnel)	3
Attainment	13	Other	5
Behaviour / interaction	15		
Attendance	3		
Engagement in learning	15		
Participation in school	10		
Health issues	4		
Other	2		

What external or standardised data are provided as evidence of this impact? *		Overall, what type of link is suggested between support and participation or learning? *	
National tests	5	A descriptive account of the association of support and indicators of student participation or learning	11
Group tests	2	A detailed analysis of the interactions between support and indicators of student participation or learning	5
Personality tests	1	A correlational analysis of the relationships between changes in support and changes in indicators of student participation and learning	10
Teacher rating scales	5	Stakeholder (teacher, student, parent, etc.) accounts	12
Systematic observation	12		
Ethnographic accounts	4		
Other	5		

What other data are provided as evidence of perceived impact?*	
Questionnaire	4
Semi-structured interview	13
Anecdotal accounts	7
Pupil records	1
Other	7

*For all questions, 24 studies were keyworded using as many keyword codes as appropriate. No categories are mutually exclusive.

In addition to the 24 studies that were included in the systematic map and in-depth review, another 43 studies were subject to the keywording process in the process of making decisions about inclusion and exclusion of studies. Since this group of studies were keyworded primarily as part of the process of decision-making, they are not a representative sample of the papers in the field, and patterns of research indicated within this group should not be seen as indicative of research in the whole field generally. Nevertheless, details of the 67 studies which went through the keywording process do provide some indication of the kind of studies which were considered for review and several features worth mentioning are described in Appendix 3.3.

3.3 Quality assurance results

There were very few disagreements at the keywording stage. This reflects the descriptive nature of keywords, as compared with the more analytical decision-making necessary at the in-depth review stage.

4. IN-DEPTH REVIEW: RESULTS

All of the studies in the descriptive map were used in the synthesis of the evidence that these studies provide according to the clustering process described in the Summary chapter.

4.1 Further details of studies included in the in-depth review

The 24 studies reviewed in depth represent a wide range of research types. They include case-studies of the effect of a particular way of using paid adult support in a school, surveys of the impact of paid adult support across schools, and experiments comparing the effects of different patterns of paid adult support. They range over a period of nearly thirty years and vary considerably in the experience of the authors and in the way in which they are reported.

The table in Appendix 4.1 gives details of the included studies according to the review-specific questions, while the abstract of each study is given in Appendix 4.2. The complete data-extraction records for each study can be found on the EPPI website, at <http://eppi.ioe.ac.uk/EPPIWeb/home.aspx>. These show how each study was coded using the data-extraction tools, the main parts of which are common to all EPPI reviews of educational research. It is here as well that comprehensive details of the methodological processes behind each study can be explored, with more information than is feasible or desirable to include in this review itself.

4.1.1 Judgements about weight of evidence

Following the procedures outlined in section 2.3, judgements about weight of evidence were made of all 24 included studies, together with an overall weight.

Table 4.1: Results of assessment of weight of evidence for each study

	<i>A</i> (Trustworthy)	<i>B</i> (Appropriate)	<i>C</i> (Relevant)	<i>D</i> (Overall weight)
Bennett <i>et al.</i> (1996)	Medium	Medium	Medium	Medium
Blatchford <i>et al.</i> (2001)	High	Medium	High	High
Bowers (1997)	Medium	Medium	Medium	Medium
Duffield (1998)	Low	Low	Low	Low
Frelow <i>et al.</i> (1974)	Medium	Medium	Low	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
Hall <i>et al.</i> (1995)	Medium	Medium	Medium	Medium
Knoff (1984)	Low	Low	High	Low

	<i>A</i> (Trustworthy)	<i>B</i> (Appropriate)	<i>C</i> (Relevant)	<i>D</i> (Overall weight)
Lacey (2001)	Medium	Low	Low	Low
Loos <i>et al.</i> (1977)	Medium	Medium	High	Medium
Lundeen and Lundeen (1993)	Low	Low	Low	Low
Marks <i>et al.</i> (1999)	High	High	High	High
Monda-Amaya <i>et al.</i> (1998)	Low	Medium	Low	Low
Monzo and Rueda (2001)	High	High	High	High
Moyles and Suschitzky (1997)	Medium	Medium	High	Medium
Roberts and Dyson (2002)	Low	Low	Medium	Low
Rose (2000)	Medium	Low	High	Medium
Vander Kolk (1973)	Medium	Medium	Medium	Medium
Welch <i>et al.</i> (1995)	High	High	High	High
Werts <i>et al.</i> (2001)	Medium	High	Medium	Medium
Young <i>et al.</i> (1997)	Low	Low	Low	Low

This table indicates a wide spread of overall weight to the studies, with 6 high, 11 medium and 7 low. Consideration was given to basing the review solely on those studies that were of high weight, or of high and medium weight. In the context of understanding and learning more about impact, however, it was clear that all studies had particular findings to contribute. We judged that the review would be more effective if we drew cautiously on the findings of all the studies reviewed in depth, taking these weights into account as we synthesised the evidence offered, in a process described in section 2.2.4. The results of the process are described in the next section.

4.2 Synthesis of evidence

The meaning of impact in this context

Earlier on, we noted that impact is centrally about whether paid adult support makes a difference, and if so, what and how, and to whom? However, the process of completing this review has demonstrated that impact is a deceptively simple notion, and that there are many dimensions to consider when trying to understand the effectiveness of paid adult support. The device that we have used to illuminate impact according to these different dimensions is that of clustering, as described in the Summary chapter.

The studies could have been grouped in many ways, but, through a process of comparison and contrast, and in the process of writing about the connections and differences between studies, we have constructed four clusters. Each cluster explores a particular dimension of impact, linked to the dimensions represented in other clusters but sufficiently different to add to our understanding and assessment of the impact of paid adult support on learning and participation.

In summary, the clustering structure is meant to lead to a deeper understanding of the dimensions of the impact of support, and also summarises the evidence in

relation to these dimensions. The structure raises rather than hides tensions between the findings of the different studies, and leads to suggestions on how these might be resolved. Inevitably dimensions represented by the clusters are interconnected such that some studies could have been placed in more than one cluster.

Each of the clusters is represented in Table 4.2 below together with the authors of the 24 studies that were subject to the in-depth review. They are subdivided to indicate the overall weight of evidence attached to each one.

Table 4.2: Studies included in the in-depth review by cluster

A: The impact on paid adult support on inclusion of students seen as having SEN	B: Effect of general support on overall achievement	C: Socio-cultural aspects of the impact of paid adult support	D: The detail of effective paid adult support practice
<i>High overall weight</i>	<i>High overall weight</i>	<i>High Overall weight</i>	<i>High overall weight</i>
	Blatchford <i>et al.</i> (2001) Welch <i>et al.</i> (1995)	Monzo and Rueda (2001)	Giangureco <i>et al.</i> (2001) Giangureco <i>et al.</i> (1997) Marks <i>et al.</i> (1999)
<i>Medium overall weight</i>	<i>Medium overall weight</i>	<i>Medium overall weight</i>	<i>Medium overall weight</i>
Bowers (1997) French and Chopra (1999) Rose (2000)	Frelow <i>et al.</i> (1974) Gerber <i>et al.</i> (2001)	Bennett <i>et al.</i> (1996)	Hall <i>et al.</i> (1995) Loos <i>et al.</i> (1997) Moyles and Suschitsky (1997) Vander Kolk (1973) Werts <i>et al.</i> (2001)
<i>Low overall weight</i>	<i>Low overall weight</i>	<i>Low overall weight</i>	<i>Low overall weight</i>
Lacey (2001) Monda-Amaya <i>et al.</i> (1998)	Lundeen and Lundeen (1993) Roberts and Dyson (2002)	Duffield (1998)	Knoff (1984) Young <i>et al.</i> (1997)

Cluster A: Paid adult support and the inclusion of pupils with SEN

This cluster considers five studies which examine the impact of paid adult support staff on the on the inclusion, particularly with regard to participation, of pupils with special educational needs (SEN) in mainstream schools. The logic for clustering these studies together is that they all have a strong methodological focus on the perceptions of members of the school community (pupils, parents, paid adult support staff and teachers). The significance of methodologies which focus on perceptions in relation to the specific review questions will be discussed along with key findings from the studies.

The importance of perceptions

Several studies in this cluster (**Bowers, 1997**; and **French and Chopra, 1999**) exclusively focused on perceptions of paid adult support staff, while the remaining

three studies (**Lacey, 2001**; **Monda-Amaya et al., 1998**; and **Rose, 2000**) although reliant on perceptions, also incorporated observations into their respective designs.

The studies included in this cluster consider the relationship of paid adult support staff to the school and school community as aspects of a whole system, rather than disembodied parts. To an extent, this sense of relatedness is constructed through a reliance on participants' perceptions. Although individual perceptions may be quite narrow, these studies show the value of bringing together the views of individuals or groups with different roles in a school community. The results of such a process reflect powerfully on relationships in a school community, beyond the scope of researcher driven/manipulated experiments, often adding depth and nuance to researchers' questions and hypotheses, and sometimes pointing the researchers in fresh and unexpected directions. To recognise that the perceptions of members of the school community are important is to believe that these community members have the knowledge and insight to contribute to answering (if not framing) questions about the impact of paid adult support staff.

French and Chopra (1999) examined parents' perceptions of paid adult support staff's roles and employment conditions. All 23 mothers interviewed in this study had children receiving SEN support in mainstream classrooms. There are some obvious limitations to studies which only considered the perspectives of one group, but in the case of **French and Chopra** this group (parents) is one that is often overlooked and deserving of more attention.

The parents interviewed in **French and Chopra** picked up on a common theme running through many of the studies in this review: that is, the effective role(s) of paid adult support staff as mediators, or as labelled in this study; 'connectors'. Paid adult support staff were seen as being effective in 'connecting' between various parties and in different situations, including between parents, families and the school; between pupils and their peers, and between pupils and other staff in the school (including classroom teachers). Parents felt that, when paid adult support staff failed to make such connections, unfortunate and unnecessary barriers were created between their children and the rest of the school, barriers that hindered the pupils' successful inclusion. Parents believed that paid adult support staff could better act as 'connectors' when they were included as 'team members', that is, when they were involved, along with classroom teachers and other school staff/managers, in the processes of communicating and in jointly planning strategies to enhance pupils' inclusion.

This study emphasised the importance of paid adult support staff, not just being nominally 'team members', but being allowed an equal say in discussions and planning. Equality relates to respect and parents felt that paid adult support staff deserved more respect from other 'team members' than they were getting, in keeping with their complex and important roles in promoting inclusion. Importantly, parents linked the status of paid adult support staff in school very closely with the status of the children being supported, equating a lack of respect for paid adult support staff, with a lack of respect for their own children.

If the perceptions of parents are rarely acknowledged and often undervalued in educational research, then the perceptions of pupils are even more so. **Bowers (1997)** is unique amongst studies in this review, as it focused solely on the perceptions of pupils. In this study, 713 pupils were interviewed about paid adult support for pupils with SEN in their schools. The authors felt that it was important to examine the perceptions of pupils with and without SEN, as these perceptions were seen as being important elements of a wider discussion about inclusion and necessary for the success of inclusive educational policies.

Pupils in this study were asked about the roles and impact of paid adult support staff (including additional teaching staff) in supporting pupils with SEN in their schools. The majority of pupils interviewed believed that pupils who received support from paid adult support staff valued and appreciated that support. This finding confirms a view of paid adult support staff as having a positive impact on learning and participation, but perhaps not inclusion in the fullest sense. A consistent minority of pupils interviewed (all of whom were older pupils, aged ten and above) felt that children receiving paid adult support were being 'singled out' and therefore stigmatised. It is interesting to note that some older pupils interviewed also felt that paid adult support staff were 'lower-order professionals', not 'real' teachers. The pervasiveness of this view gains some weight when looked at alongside the beliefs of the parents in **French and Chopra (1999)** who felt that paid adult support staff were often seen as being marginal and not accorded much respect by classroom teachers and school management. A view of paid adult support staff as being 'lower-order professionals' or as somehow stigmatising pupils by supporting them, whether justified or not, detracts from actual inclusion and points to the important and complex effects perceptions of paid adult support staff's impact may have on actual impact.

Understanding inclusion

Perceptions about paid adult support and its impact on inclusion were examined in other studies in this review; however a difficulty with many of these studies is that understandings about the nature and definition of inclusion were often taken for granted. Some studies, however, did work towards definitions of inclusion.

In **Lacey (2001)**, researchers asked parents, paid adult support staff and teachers questions about the aims of inclusion and found that, at least for parents and paid adult support staff, social interaction was a more important part of the process of inclusion than academic achievement. This study considered the perceptions of parents, teachers and paid adult support staff in relation to the roles and impact support staff had on inclusion of pupils with severe and profound learning difficulties in mainstream educational settings. The authors also conducted classroom observations as part of the study. **Lacey** reflects some of the findings of **French and Chopra (1999)** and other studies, which include; an understanding that paid adult support staff play important roles in supporting pupils' learning, participation and inclusion; and that paid adult support staff can be most effective (that is, have the greatest impact) when included as valued members of a school's staff team.

Another more specific and perhaps, controversial finding from **Lacey** may help sharpen the focus of which practices contribute to successful inclusion. The researchers found that paid adult support was more effective in encouraging participation when directed towards groups of pupils rather than individuals. This finding corresponds with evidence suggesting that paid adult support staff were particularly effective when they were allowed to promote social interaction within groups of disabled and non-disabled pupils. Individual support of pupils may have been necessary, but did not necessarily promote inclusion as it may have further isolated these pupils from the class and the classroom teacher, a notion reflected in other studies (see **Marks et al., 1999**).

One study (**Monda-Amaya et al., 1998**), which attempted to capture pupil perspectives (amongst others), sought to determine what behaviour SEN pupils would need to adopt in order to be successfully included in a mainstream classroom. The compiled list of 'essential behaviours' included aspects of both social and academic behaviour. The list of behaviours is detailed and interesting, but it is questionable as to whether this approach to inclusion is ultimately very helpful. There is a possibility that predicating successful inclusion on adherence to a list of 'essential

behaviours' may be too simplistic and limiting an approach on its own. It is doubtful whether any pupils (SEN or 'mainstream') would actually satisfy the criterion of this checklist. There is a definite tension underlying many discussion of inclusion: between an understanding of inclusion as a rather nebulous set of ideals, and inclusion as definable by a definite checklist of practices or behaviours.

Impact of paid adult support on inclusion

Monda-Amaya, et al. (1998) examined the perspectives of pupils, classroom teachers and paid adult support staff in relation to the transition of five pupils with SEN from special education classes to a mainstream 'social studies' classroom. The researchers found that the pupils generally felt that the assistance of paid adult support staff was helpful in regards to their inclusion and academic performance in the classroom, at least in the initial stages of their transition.

Another study in this cluster which supported the notion of the importance of paid adult support in inclusion was **Rose (2000)**. He relied on the perceptions of teachers (and classroom observations) in a mainstream school with a high percentage of paid adult supported SEN pupils on role. Teachers were asked about the effectiveness of the paid adult support. Both the observations and teachers' perceptions indicated that the ten teachers who participated in the study strongly valued the work of paid adult support staff in supporting SEN pupils and promoting inclusion and that this work was rendered more effective through team work and communication. The author acknowledged that relationships between teachers and paid adult support staff are complex, but suggested that best practice involved 'mutual respect and confidence and a shared purpose, which can only be achieved through joint planning and evaluation' (p.194). The building of long-term relationships between specific paid adult support staff members and teachers was also suggested as a key means of promoting successful inclusion.

Although **French and Chopra (1999)**, **Monda-Amaya, et al. (1998)** and **Rose (2000)** are all fairly small scale studies, a certain similarity of findings with larger studies such as **Bowers (1997)** and **Lacey (2001)** contributes to the growing body of evidence suggesting paid adult support staff do positively impact inclusion.

Conclusion

The strongest feature of the impact of paid adult support emerging from this cluster concerns the impact of paid adult support staff on pupil participation. In these studies, the participation of SEN pupils in mainstream classes is both the most obvious form of inclusion and has the most direct correlation with the efforts of paid adult support staff. This cluster of studies supports the notion that paid adult support staff directly impact pupils' participation. These findings are evident in all the studies discussed here, including those bearing a high weight of evidence, and therefore have a general relevance as each study looked at the provision of SEN inclusion in a different context.

Key Points: Cluster A

Supported by studies with medium overall weight of evidence

- Paid adult support staff can be effective mediators or 'connectors' between different groups and individuals in the school community.
- Paid adult support staff who are valued, respected and well integrated members of an educational team are seen as positively impacting the inclusion of SEN pupils in mainstream classrooms, particularly in regards to these pupils' participation.

- Paid adult support staff who are not valued and not included with teachers and school management in the decision-making process are seen as being less effective in promoting the inclusion and participation of SEN pupils.
- Paid adult support staff sometimes stigmatise the pupils they support.
- Paid adult support staff can sometimes thwart inclusion by working in relative isolation with the pupils they are supporting and by not helping their pupils, other pupils in the class and the classroom teacher to interact with each other.
- Paid adult support staff are generally seen as having a positive impact on the inclusion of pupils with SEN and this has been reflected by parents, teachers and pupils.

Cluster B: Effect of paid adult support on overall achievement

The studies in this cluster look at the impact of paid adult support on general pupil attainment. They pay little attention to the actual roles taken by support staff, or to the relationship between these roles and the impact on pupils. They focus instead on attempting to identify systematic effects on attainment which are due to the presence of support staff in classrooms, without getting into the detail of their work. They do this by studying a large sample, seeking to identify consistent differences between large groups of classrooms with and without paid adult support.

The two studies which do this most coherently (**Gerber et al., 2001** and **Blatchford et al., 2001**) deal with the issue of paid adult support as a side-issue of a larger debate about the relationship between class size and pupil attainment. The main findings of these studies are that there is no clear and consistent effect on attainment of the class on average. Any differences found are judged to be idiosyncratic and possibly due to a chance combination of other factors.

Gerber et al. (2001) is based on Project Star, a large-scale, longitudinal, experimental study in Tennessee, USA, in which children and paid adult support staff were allocated to classes on a randomised basis. The main findings were that 'All significant differences disappeared by Grade 3. No matter whether students had been in a teacher-aide class for one, two, three or four years, their average performance did not differ from that of students who attended full size classes without a teaching assistant ... The results suggest that enduring participation in a class with a fulltime teaching assistant may have some impact on pupil's reading scores- at least during the grades in which reading is emphasised. At the same time, these sporadic positive results arose in the context of many non-significant differences' (p138).

The main findings from **Blatchford et al. (2001)** are similar in terms of identifiable effects on overall pupil attainment: 'There were no clear effects for additional staff... in any of the three years of KS1' (p4). However, this study adds a note of warning about interpretation, emphasising the weakness in the study whereby the categories used for classroom support were too broad, and where there was no attempt to classify paid adult support 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 paid adult support has little proven effect on attainment. Firstly, neither of these studies attempt to look at the impact on particular individual children within a class, who may be the focus of the support given. **Gerber et al. (2001)**, for example, suggests that paid adult support may provide important attention and support to specific students, affecting individual but not class test scores.

Secondly, the precise nature of paid adult support staff duties was not described in these studies, and so they do not discover much about the impact of paid adult

support in particular roles. To the extent that they are concerned with paid adult support roles at all, they construct broad categories and look for patterns based on this categorisation. 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 paid adult support can work with students. This is a central topic for Cluster D.

Thirdly, there is an issue of the difference between qualitative and quantitative findings in these studies. Qualitative research in **Blatchford et al. (2001)** investigated the perceptions of teachers about the impact of paid adult support in their class. Their findings suggested that the use of paid adult support led to increased attention by pupils, effective support for pupils' learning, increased teacher effectiveness and increased children's learning outcomes. There is a marked difference between the perceptions held by relevant stakeholders, and the evidence of outcomes.

This same difference is evident in a much smaller study, **Roberts and Dyson (2002)**, which evaluates a particular initiative of utilising support staff in an LEA. Hard evidence about the impact of the initiative on Special Educational Needs (SEN) and reading tests in this study is extremely weak, given that there was no control group. Despite this, all head teachers suggested that there had been positive outcomes for targeted pupils in terms of their Standard Attainment Tests (SATs) results. The paid adult support staff had worked collaboratively with the class teacher, planning collaboratively, and keeping records on target pupils' progress which were fed back to teachers and which informed teaching programmes. A good relationship with the class teacher was considered by headteachers, class teachers and paid adult support staff to facilitate effective communication and efficient planning and delivery of teaching programmes. Interestingly, one of the outcomes of this project was a clearer role and higher expectations of paid adult support staff in terms of their potential contribution to teaching and learning, and the skills that they need for this. The skills of paid adult support staff in establishing positive relationships with pupils were highly valued; it was felt that they had been particularly effective in working with challenging pupils and pupils difficult to reach. This had knock-on benefits to the whole class in terms of the lack of disruption and improved flow of lessons.

Frelow et al. (1974) also investigated the academic and behavioural progress made by relatively low-achieving second and third grade students when paid adult support staff were made available to teachers as part of an intervention programme. The pupils made significant progress in the essential skills of reading and mathematics, and appeared to benefit academically from the paid adult support programme. Their behaviour did not appear to be much affected, mainly because, contrary to the researchers' assumptions about low-achieving children, their behaviour was not an issue at the beginning.

Lundeen and Lundeen (1993) describes how a change towards collaborative mainstream teaching with inclusion of students with SEN had a positive impact on class attainment scores, particularly for the first term. It deals with an interesting question in terms of the scope of the review, but unfortunately it is difficult to rely on this single case in establishing a causal link, particularly since neither classroom processes nor participant perspectives are described.

Welch et al. (1995) is a much more intensive evaluative case study, involving a comparison between two schools. One of the schools uses paid adult support staff who were trained and supervised by a single resource teacher to provide supplementary drill and review to individuals or small groups of students in the back

of a general education classroom. The authors of the report cautiously point towards some linkages between support and attainment/learning which is backed up by data. The maths and reading scores for some classes were significantly higher in the project school than in the control school, where baseline scores had not been significantly different. The groups in the two schools were not matched in terms of proportion of students identified as being at risk. However, these relatively tentative findings are very strongly backed up through interview and survey data with teachers and paid adult support staff.

Conclusion

This cluster focuses on attainment as a significant part of the exploration of impact and the broadest studies in this cluster suggest that the impact of paid adult support on general attainment is small. The same studies, however, indicate that by itself this focus represents a limited notion of impact, and that the impact of particular ways of working, or working with particular groups, or on characteristics of learners which cannot be read off from attainment scores at all, is just as significant. Other studies support the notion that paid adult support staff can and does have an effect on the learning of particular groups of pupils, depending on the way in which they work and the kind of effect that is under scrutiny.

Key Points: Cluster B

Supported by studies with high overall weight of evidence

- Paid adult support shows no consistent or clear overall effect on class attainment scores.
- Paid adult support may have an impact on individual but not class test scores.
- Most studies do not distinguish between all the ways in which paid adult support staff can work with students.

Supported by studies with medium overall weight of evidence

- Qualitative evidence of impact is much more positive. The perceptions of participants in the same studies that indicate little impact of paid adult support on attainment, stress the significant effect on attainment that support staff can have.

Cluster C: Sociocultural issues on impact

Five studies are discussed in this cluster, as they all looked at wider sociocultural issues that affect and inform pupils' inclusion, participation and learning. Although most of the studies in this particular cluster looked at issues of inclusion relating to underachieving or disabled pupils, they differed as to their methods and methodologies.

Schools are sociocultural environments, in that they are social institutions affected by and affecting a variety of cultures and cultural issues. The relationships between the sociocultural aspects of a school community and teaching, learning and participation are as beguiling as they are interesting. Many studies in this review do take sociocultural issues into consideration, but only a few explicitly concern themselves with 'unpacking' the sociocultural aspects of a school in relation to the impact of paid adult support on pupils' learning and participation. It seems appropriate to examine these studies together, in a cluster, to appreciate better what they have to say about the relationship between sociocultural factors and the impact of paid adult support. Exploring the sociocultural dynamics that exist in and outside of a school is a complex, but worthwhile endeavour.

The relationship between socio-economic status (SES) and impact

Various studies have attempted to account for the SES of pupils (and their parents) if only nominally. However **Duffield (1998)** is the only study reviewed here that attempted to account for the impact of paid adult support and the relationship between SES and pupils' learning and participation as being factors in the same equation. The fact that this is the only study in the review that explicitly attempted to look at paid adult support and SES (as well as school effectiveness measures) is not necessarily because the relationship between these factors is not worth exploring, but is due in part, to the narrowness of the review-specific questions. Undoubtedly the relationship between SES, paid adult support and pupils' participation and learning is a complicated one, and this is explored in **Duffield's (1998)** report.

Duffield (1998) looked at four Scottish secondary schools, focusing on SES and school effectiveness measures as they related to the provision of behavioural support and guidance for pupils. The author explicitly highlighted the importance of the link between SES and pupil support systems in the report's findings: 'All three pupil support systems (learning support, behavioural support, guidance) displayed more common characteristics relating to "SES" than "measured effectiveness" in our four school study' (p. 131). High SES schools were seen as having more co-operative learning support and more focused, intensive behavioural support (because fewer pupils were supported at one time) than the lower SES schools. Duffield suggested a strong link between co-operation ('shared vision and consistent collaborative working amongst staff') and student participation and learning. Perhaps this can be taken to mean that higher SES schools have better learning support for pupils than lower SES schools. However, that type of conclusion would be misleading as Duffield also looked at schools with high SES and what was determined to be low effectiveness. A mitigating factor here may be that the lower SES schools in this study were seen as having more knowledge of their pupils' home lives and individual situations than the higher SES schools and less parental pressure placed upon them.

There are difficulties in interpreting the findings and conclusions of this particular study, because the report is often confusing. Also, there is little discussion of the context of the study or rationale of the study design and, in particular, we are not enlightened as to why (or exactly how) SES was determined to be other than a circumstantial factor with regard to pupils' learning and participation, or with regard to school effectiveness. To justify their claim that high SES schools have more co-operative learning support, one would expect the researchers to have looked at far more than four schools. Nevertheless, the study is particularly suggestive in the finding that staff in lower SES schools had a better knowledge of pupils' home lives than higher SES schools. The validity of this insight is problematic because of the small sample number, but it gains a certain added relevance as it is also reflected in another study, **Monzo and Rueda (2001)**.

Sociocultural mediation and impact

Monzo and Rueda (2001) did not focus directly on SES, however, SES was important as all the pupils in the two schools studied were from low SES, Latino families in California. Part of the authors' rationale for conducting the study related to their understanding that many Latino pupils traditionally have difficulties learning and engaging in North American schools. This is partly due to the pupils' cultural/language differences and low SES, which may serve to isolate them in homogenous communities, outside the mainstream. The teachers and paid adult support staff described in this study had very detailed knowledge of their pupils' lives and cultural environment, similar to the staff in the low SES schools described in **Duffield (1998)**. However, similarities end here as **Monzo and Rueda (2001)** is a vastly different study. It may be that the sheer complexity of sociocultural dynamics in a school is

easier to explore in smaller, qualitative case studies. Smaller studies like **Monzo and Rueda** can approach the subject with a greater degree of depth, by exploring relationships in a more focused way, as opposed to studies which rely on making comparisons over larger sample sizes and examine more variables.

Monzo and Rueda (2001) found that the impact of paid adult support on pupils' learning and participation had a direct relationship to their knowledge of the local culture. The paid adult support staff interviewed and observed in this study all had what can be likened to a sort of cultural empathy with their pupils; that is, they had a deep and personal understanding of a culture and language they shared with their pupils. This cultural empathy was seen to have been used to facilitate pupils' learning and participation, and provided an underlying base of emotional support for pupils in an educational environment which did not directly relate to their culture and home language. In this case, paid adult support staff were able to draw on their understandings of the pupils' culture and language, to encourage and support pupils, both in and outside the classroom, in ways paid adult support staff without such sociocultural knowledge would not have been able to manage.

Paid adult support staff in **Monzo and Rueda** can therefore be seen as cultural mediators, helping pupils to learn and understand in a different culture by referencing their own culture. It is not that they followed a particular programme of intervention, but that the cultural understanding they brought to the classroom changed the way pupils saw themselves as learners. This helps to expand the notion of paid adult support staff as mediators, a role they have been seen in other studies as performing directly between classroom teachers and pupils.

Mediation and inclusion

Studies in this cluster looked at the mediating roles paid adult support staff took on particularly in relation to including disabled pupils in mainstream classrooms. One study, **Bennett et al. (1996)**, examined the mediating roles of paid adult support staff and other specialised support staff in the successful inclusion of an autistic girl in a mainstream classroom. **Bennett et al.** employed a design which is unique amongst the studies in this review, in that it was written as a collaborative case study with researchers and the mother of an autistic girl. He seems to have had a wider vision of what the process of inclusion involves, in comparison with many other studies that looked at including disabled pupils in mainstream schools. This vision was based on a notion of the importance of collaboration between parents, school administrators, teaching staff, paid adult support staff and specialists in fostering successful inclusion. Also, the authors explained that a key to the autistic girl's successful inclusion was the in-depth knowledge a learning support assistant (LSA) and other staff had about the girl.

The LSA in this study had worked with the girl over several years, following her from kindergarten through to infant school and building a relationship based on trust and knowledge of the girl's likes, dislikes, strengths and interests far beyond the sphere of academic ability. The nature and duration of the paid adult support's relationship with the autistic girl went far beyond the technicalities of classroom performance, by linking into and becoming part of the broader cultural context of the girl's life. The authors suggested that this contributed to her successful inclusion.

Conclusion

The studies in this cluster emphasise the important roles paid adult support staff play as mediators, and that this mediation is a key element in promoting pupils' participation and learning. Paid adult support staff mediate in various ways; between a number of groups, individuals, interests and understandings. This is described as

effective sociocultural mediation where support staff mediate between pupils and teachers, and between pupils and other pupils, and they can tune in to pupils' cultural identities in their local communities and the dominant culture of a school and its curriculum.

All studies in this cluster suggest that the more paid adult support staff understand and can tap into the sociocultural aspects of their pupils' lives, the more impact they can have on pupils' learning and participation. There are findings from the research in this cluster which highlight some of the factors that contribute to paid adult support staff's effective sociocultural mediation. These studies suggest that, when paid adult support staff have detailed, personal knowledge of the pupils they support (knowledge of language, culture, interests, family, history, behaviour, or any combination of these) and can utilise this knowledge to engage these pupils in learning and participating, they have clear and positive impact.

Key Points: Cluster C

Supported by studies with high overall weight of evidence

- Sociocultural aspects of pupils' lives and the school community are important, but often neglected elements of the thinking about paid adult support staff's impact on pupils' learning and participation.
- Knowledge of pupils' cultures, behaviours, languages and interests can be utilised by paid adult support staff to have a positive impact on their learning and participation.

Supported by studies with medium overall weight of evidence

- Paid adult support staff fulfil important roles as mediators in a number of contexts, as they mediate between pupils, teachers, specialists, parents and even different cultures.

Cluster D: The detail of effective paid adult support practice

Each study in this cluster describes some different aspects of the roles taken by support staff, and attempts to trace the relationship between them and the learning and participation of particular pupils. In this way, the cluster highlights a question implicit in the notion of support - support for what? Lack of clarity over this question appears to give rise to various unintended consequences. Most significantly, there is evidence from several studies of a tension between paid adult support behaviour that contributes to short-term behaviour change in pupils, and those which are associated with the longer-term development of pupils as learners. Paid adult support strategies associated with on-task behaviour in the short term do not necessarily help pupils to construct their own identity as learners, and some studies in this cluster suggest that, on occasions, such strategies actively hinder this process. This tension explains why outcomes can depend on the precise way in which support is provided.

A quote for one of the studies in this cluster outlines the need for attention to detail in terms of the way that support is organised:

'In questioning the current use of instructional assistants, we are not suggesting that instructional assistants should not be used or that the field revert to historically ineffective ways of educating students with disabilities (e.g., special education classes, special education schools). We are suggesting that our future policy development, training, and research focus on different configurations of service delivery that provide needed supports in general education classrooms, yet avoid the inherent problems associated with our current practices...We hope that by raising the

issues presented in this study, we can extend the national discussion on practices to support students with varying characteristics in general education classrooms and take corresponding actions that will be educationally credible, financially responsible - helping, not hovering!' (Giangreco *et al.*, 1997, p. 17)

Several studies in this cluster provide details about the effects of different ways in which support staff can work and the impact of this on the short-term learning of students. These studies focus on establishing the measurable effects of support on a small number of pupils, by depending on the findings from intensive observation rather than on participants' perspectives. They describe how the presence or absence of paid adult support affects pupils' on-task behaviour over a timescale of minutes or hours. **Werts *et al.* (2001)**, for example, focused on three students with disabilities in junior school (KS2, ages 7-11), asking the question, 'In the setting of a general educational classroom, during an academic lesson with age-and functionally-appropriate materials, does proximity of a paraprofessional have an impact on the academic engagement of a student with substantial difficulties?' It was found that the 'percentage of intervals of academic engagement was higher and the percentage of intervals of non-engagement was lower for each of the three students when the paraprofessional was close to the student'. Thus the authors suggest that closer 'proximity should be followed when academic engagement is the desired outcome'.

Young *et al.* (1997) attempted a similar study, which focused on the effect of support for young people with autism, and tried to look at both academic and social impact through observations of on-task behaviour, in-seat behaviour, self-stimulatory responses, and inappropriate vocalisations. The results are not particularly consistent in terms of the effect of any one aspect of paid adult support behaviour, and it is probable that the individual differences between the young people concerned are more significant than the authors suggest.

A secondary finding from the study relates to the level and type of prompting that the paid adult support staff (and teachers) engage in, which is primarily verbal. Somewhat surprisingly, and perhaps significantly, the three students happened to stay on task most often when working one to one with a peer, although such an arrangement was observed for less than 23 percent of the time. The instructional setting where maintaining on-task behaviour was most difficult involved group activities.

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 and the amount of academic work done in the classroom, although the higher on-task percentages in the fifth grade were not correlated with the highest standard of academic output. This is an indication that, although paid adult support acting purely to maintain good pupil behaviour is sufficient to increase on-task performance, it does not necessarily lead to an increased rate of pupil learning.

One study reported a particular way of utilising paid adult support staff. In **Vander Kolk (1973)**, paid adult support staff were trained in how to construct helping relationships as therapeutic agents and then individual meetings between aides 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' (p240). 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. The support staff perceived that the

withdrawn children became more self-revealing, while the children with behaviour problems achieved greater self-control.

It is difficult to make claims from these studies about the more general or long-term effect of particular support styles. The minutiae of paid adult support practice are only controllable and measurable for limited periods of time, so the long-term effect of such behaviour is difficult to determine. However, another group of studies have taken seriously the possibilities of unintended consequences of the continuous proximity of support staff to pupils with disabilities and their peers. The methodology of these studies tends to be broader, encompassing both qualitative and quantitative approaches.

Giangreco et al. (1997) is a study of the support arrangements for seven female and four male students with disabilities all identified as deaf-blind (though 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. Data were collected in 16 classrooms in 11 public schools where students with multiple disabilities were educated in general education classrooms. The research study relied primarily on 110 extensive classroom observations of the students with disabilities and their teams, averaging two to three hours each, and 40 interviews with paid adult support, parents, classroom teachers.

Analysis of these data led to the identification of one dominant theme, the significance of the proximity between the student with disabilities and the instructional assistants. Further analysis of this data highlighted eight distinct sub-themes, which in various ways raise the possibility that the continuous close proximity of paid adult support is not beneficial for learner identity. In particular, it was seen to be associated with (a) interference with ownership and responsibility by general educators, (b) separation from classmates, (c) dependence on adults, (d) impact on peer interactions, (e) limitations on receiving competent instruction, (f) loss of personal control (g) loss of gender identity, and (h) interference with instruction of other students.

Marks et al. (1999) add the perspective of paraeducators on this issue. The study was primarily concerned with obtaining the perspectives of paraeducators as to their responsibilities when working with 'disabled' students (including students with autism, cerebral palsy, Downs Syndrome and other learning difficulties) in inclusive classroom settings. All students had 'varying degrees of challenging behaviour'. All 20 paraeducators worked one to one with disabled students (from grades 1 to 8), and all had at least two years of experience in their field. After data analysis, a presentation was made to a group of 10 paraeducators (two of them had been part of the study) which validated the following themes and issues: paraeducators were found (in many cases) to have 'assumed the primary burden of success for the inclusion students'. They had assumed this role because they did not want the students to be a 'bother' to the teacher; because they wanted to meet students immediate needs; because they had become the 'hub' or expert, and because their involvement with the student *represented* inclusion. This situation was generally accepted by the class teachers, who did not necessarily include the disabled students in general curriculum planning. This created a situation in which 'most of the teachers appeared to act as 'hosts'.

These critiques of the unintended effects of particular patterns of paid adult support appear to be based on a different set of assumptions about learning in school. In particular, they assume that the longer-term processes whereby pupils construct their own identity as learners are pedagogically significant. Full participation in a class is seen to involve increasing opportunity for making choices, both social and academic, and such choices are seen as an essential part of what it is to learn. Some of the studies mentioned earlier pick up on these issues. For example, **Werts et al. (2001)**

reflected on the fact that the quality of work completed by the student when actively engaged had not been explored. They explicitly raised concern over the unintended effects of close paraprofessional proximity to students, commenting in particular on the level of dependency of the student with disabilities upon the paraprofessional, and how and when the support should be faded out. These relate to significant questions of ownership: who should take responsibility for the students in question: teacher, paid adult support, the students themselves, or their peers?

Ownership and engagement

Studies focus on this issue of ownership in various ways. **Giagreco et al. (2001)** explores this area in a qualitative study that constructs the notion of *teacher engagement* with students with disabilities. Programme-based paraprofessionals had generally been employed to help with children with high-incidence disabilities and difficulties, whilst one-on-one paraprofessionals had been employed to help with low-incidence disabilities. The study found that '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' (p78). When teachers were less engaged, this was associated with problems of isolation (of both students with disabilities and their supporters); insular relationships (in which paraprofessionals and students become co-dependent) can be problematic in terms of adjustment and a difficulty in asserting professional roles; and stigmatisation, where pupils felt embarrassed or harassed by the unwanted close proximity of an additional adult.

Hall et al. (1995) take the notion of unintended dependency as a starting point and seek to establish short-term behavioural strategies to address the problem. They give an account of an experiment with an alternative way of working with three learners with learning difficulties. In the baseline phase of the study, the researchers found that, despite the high levels of prompting, children's engagement levels remained low, a finding which fits with the notion that prompting leads to dependency and reduces learning behaviour. In an intervention, paid adult support staff were asked to train the students to use photos to reduce the dependence on prompting. The amount of prompting by aides decreased at different rates, but by the end of the intervention phase, there had been a reduction in verbal and gestural prompts by all three aides, and as prompts decreased, the students' engagement and time spent 'on schedule' had increased.

The study by **Moyles and Suschitsky (1997)** is a reminder that the assumptions held by paid adult support staff about learning are significant. The authors set out to investigate the working roles and relationships of infant school teachers (KS1, ages 5-7) teachers and classroom assistants, the perceptions and reality of these roles, the effectiveness of the working partnership, and the perceived and actual impact on the quality of children's learning experiences. A main finding of the study is about the different assumptions of paid adult support and teachers towards learning. Where teachers are seen to focus on the engagement of pupils in learning processes, assistants are seen to encourage dependency by prioritising the achievement of outcomes of activities, whether or not these actually represent the capabilities of children. In other words, the paid adult support staff who were observed tended not to focus on the child's ownership of the task; they encouraged the acquisition of procedural rather than conceptual knowledge. They were frequently observed helping children physically to draw lines or paint objects, or instructing children as to the next step rather than asking a question about what the child might do.

It would be possible to take this observation as reinforcing a deficit model of paid

adult support, as people who lack understanding of the educational process. However, such a conclusion is not justified on this evidence. It is at least possible that such paid adult support behaviour is influenced by unintended messages communicated by teachers about the need to meet targets and to get through the curriculum. In this sense, laying emphasis on the outcomes of activities fits closely with the prevalent standards agenda in primary schools, with much discourse centred on pupil attainment rather than about pupil learning.

The professional learning of paid adult support staff

The processes by which paid adult supporters learn to do the job are an issue in several studies. **Moyles and Suschitsky (1997)** suggest that there is a problem of poor communication from teachers about educational processes, which arises because they often hold only tacit rather than explicit knowledge of their own practice. The authors viewed 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 paid adult support staff to understand almost intuitively the teaching role and therefore have expectations of them that paid adult support staff cannot fulfil' (p99).

The frequent suggestions that there should be more effective partnerships between teachers and paid adult support staff is partly an issue of adult learning. **Giangreco et al. (1997)** described how 'instructional assistants... reported that they received mostly on-the-job training from other instructional assistants by talking with each other and job shadowing so that patterns of interaction by instructional assistants were passed on... In-service training was typically conducted in groups which included only other instructional assistants' (p5-6).

Joint planning between teachers and paid adult support staff is one mechanism for mutual learning, and several studies in the cluster (including **Moyles and Suschitsky, 1997**; **Giangreco et al., 1997**; and **Marks et al., 1999**) have stressed the need for more of this. **Moyles and Suschitsky (1997)** suggest other possibilities for classroom organisation which may result in learning to challenge assumptions on the part of both teachers and paid adult support staff. They note that many teachers were in constant movement around classrooms and suggest that children would benefit by teachers spending a higher proportion of their time working with small groups of children, while the assistant adopts a more monitoring role.

Conclusion

A group of studies in this cluster look for the effects of particular aspects of paid adult support behaviour on attainment and learning, and come to conclusions about the benefits of close proximity with learners. Other studies suggest that such a focus leads to unintended and negative impacts on pupil participation being ignored. There is a tension whereby paid adult support behaviours which lead to short-term effects (e.g. being on task, completing coursework, etc.) have a potentially negative impact on participation and perhaps on long-term construction of learner identities.

Key Points: Cluster D

Supported by studies of both high and medium overall weight of evidence

- Paid adult support staff can positively affect on-task behaviour of students through their close proximity.
- Continuous close proximity of paid adult support can have unintended, negative effects on longer-term aspects of pupil participation and teacher engagement.
- Less engaged teachers can be associated with the isolation of both students with

disabilities and their support staff, insular relationships between paid adult support staff and students, and stigmatisation of pupils who come to reject the close proximity of paid adult support.

Other related studies

One of the difficulties with a systematic review is that little value is attached to studies which are related indirectly to the issues involved and which therefore get excluded at an early stage. In order to make some connections with excluded studies which are nevertheless relevant to the findings of this review, key findings of studies that reinforce or sharpen the key points emerging from the cluster are included in Appendix 4.3. For example, some of these studies are based on the perspectives of professionals writing about their own experience in rather anecdotal ways, which were not considered to be based on strong enough empirical evidence to meet the inclusion criteria. These studies are not used directly in synthesising the findings of the review, but they indicate relationships between the key findings emerging from the review and a much broader set of literature.

4.3 Quality assurance results

The process of in-depth review involved much greater degrees of judgement than keywording and, on average there were around ten disagreements out of approximately 120 questions between the pair of reviewers working on each study. These disagreements were of two kinds: one related to attaining a common understanding of particular questions, whilst the other related to differences in judgement on some aspects of the quality of studies. We consider that both kinds of disagreement are inevitable: the first because all reviewers bring their own interpretations, the second because they bring their own experience of what is valuable and essential in research, and what is not. The former kind of disagreement reduces as people work more in the process, whilst the second kind of disagreement depends on the strength of opinion which reviewers bring to matters of methodology and epistemology in relation to the particular context of the review.

4.4 Actual involvement of users in the review process

Three stages of the involvement of users are worth highlighting, because they reflect in different ways on the utility of the review for practitioners.

- Face-to-face focused tasks with teachers and learning support staff alongside university staff and others were of great benefit at a key stage in our project. They looked at studies in the light of their current practice and explained the main criteria of usefulness of studies from their point of view.
- The website we set up attracted comment by potential users in the Advisory Group, and was much easier for users than endless attachments of revised documents. However, users' feedback and comments on the review documents were progressively more difficult to take account of as we continued further into the review process. 'I have read the report and found some of the points very interesting, particularly the effect on attainment within the group. Is there any evidence to show increased attainment in the

individuals? Also of interest was the finding of alienation if they work with just one individual, better if they work with a group of students. However, in terms of including pupils which may have fallen through the net they are an 'invaluable resource' (a teacher). We were left remembering that interactivity requires dialogue, not simply two-way communication.

- At the stage of disseminating findings of the review, we rediscovered the need to think carefully about pedagogy. We realised again that we needed to consider *who the learners are?* Many of the learning support staff and teachers who came to a training day based on our research did not identify with those findings of the literature review that were critical of practice. They did not see themselves as marginalised staff in their schools and it is probable that, if they had been, they would not have had the opportunity to come to the training day. Consequently they saw themselves as having solved the problems presented in the research, and so having nothing to learn from it. Their expressed need as pressurised staff in schools was for optimistic, forward-looking answers to questions about how to improve and make better use of current resources. The findings of the review did not relate directly to this kind of question. Furthermore, the focused discussion activity that we designed using photographs of support staff was too open-ended to be used as extensively as we tried to use it. In future, we will remember to involve potential users in designing the activity.

5. FINDINGS AND IMPLICATIONS

This section develops findings from the synthesis of research, and leads to implications for policy, practice and research. Findings are based on both quantitative and qualitative evidence, gathered through assessment tests, ratings scales, perceptions of staff and students as well as observations.

5.1 Synthesis of findings from studies in the in-depth review

There are a number of overarching issues that emerge from an analysis of the studies that fall within each of the clusters that are discussed in Chapter 4. These carry with them implications for developments in policy and practice and for further research. In this concluding chapter, we consider these overarching issues and, where appropriate, link them to previous literature in this field.

In Cluster A, the initial focus was on studies of the impact of support given to students with identified special educational needs. A key underlying theme from all these studies relates to the respect given by all concerned to support staff and pupils. Respect for paid adult support and for pupils is significant, and stands as the opposite of stigmatisation. It is suggested that this respect is a product of teamwork and participation. To put it another way, dismantling a deficit discourse (about pupils, but also about paid adult support) is an element of operationalising the notion of inclusion. Therefore studies in this cluster suggest that support is effective and has impact if the support staff are made to feel part of a team and are valued by all other staff in the school. This view of support staff is also mirrored by the way the pupils with SEN are viewed. Valuing all those who make up the community of a school, staff and pupils is often viewed as an essential element in the development of effective inclusive practices.

The focus on attainment in Cluster B forms another significant part of the exploration of impact. The broadest studies suggest that the impact of paid adult support on general attainment is small.

However, two of the most substantial studies were based on data that were collected some years ago and, given the rapid growth in the number of assistants and the focus on their training and support, it is possible that findings based on more up to date evidence might yield more positive results. In addition, though statistically these studies are extremely robust and use sophisticated analyses, because of the large numbers of pupils involved, it has not been possible to link different aspects of classroom practice associated with paid adult support to the impact on pupils. It is entirely possible that, within these large samples, there was evidence of excellent practice that had an impact on attainment but that these became 'lost' in the wider statistical analysis.

Another point is that these studies focus on a more limited notion of impact, that relating to attainment. Other studies in Cluster B suggest that the impact of paid adult support on participation is somewhat stronger. This is important, given the thirst for data in educational research that focus solely on attainment outcomes. For many marginalised and vulnerable pupils and their parents, gains in

attainment may be only one of a number of areas in which improvements are sought.

In Cluster C, the research studies suggest the impact of paid adult support staff on participation is linked to the social and cultural connections between paid adult support staff, pupils and teachers. Not necessarily, but sometimes, support staff live in the same communities as the pupils they support. This certainly has the potential to aid pupil participation in schools in that the assistants' background, culture and life out of school is not completely separate from school norms and culture. The development of participation in this sense is the development of an engagement whereby paid adult support, teachers and pupils make valued contributions that link to, and build on, significant aspects of their identity, including cultural aspects. Other research (for example, Farrell *et al.*, 1999) also refers to the potentially beneficial effect of learning support assistants living in the community shared by the school's pupils.

In Cluster D, the findings from the studies reflect a key dilemma that relates to the relative benefits and problems associated with one-to-one versus small group support. In essence the research suggests that one-to-one support can lead to gains in learning and positive changes in pupils' behaviour. However it is also the case that this type of support can have an unintended and negative impact on participation. There is a tension whereby the behaviour of paid adult support which leads to short term effects in relation to learning (being on-task, completing coursework, etc.) has a potentially negative effect on participation and perhaps on long-term construction of learner identities. Therefore, excessive reliance on one-to-one support can lead to pupils being isolated from their peers and not fully included.

Drawing themes from the clusters

Bringing together the key points from each of the clusters, it is possible to draw out three overlapping themes.

1. *The relative importance of raising standards and engagement in learning*

The two large-scale quantitative studies in Cluster B show no consistent or clear overall effect on overall class attainment scores. However, the studies in Cluster A show that paid adult support staff who are valued, respected and well integrated members of an educational team are seen as positively impacting on the inclusion of SEN pupils in mainstream classrooms, particularly with regard to these pupils' participation, and this has been reflected by parents, teachers and pupils. Even in studies in Cluster B, in which the impact on general standards is seen to be low, the perceptions of participants indicate a significant effect. It seems that paid adult support may provide important attention and support to specific students, affecting individual but not class test scores.

2. *The risk of marginalisation*

Paid adult support staff can sometimes thwart actual inclusion by working in relative isolation with the pupils they are supporting and by not helping their pupils, other pupils in the class and the classroom teacher to connect and engage together (Cluster A). Continuous close proximity of paid adult support can have unintended, negative effects on longer-term aspects of pupil participation and teacher engagement (Cluster D).

3. *The mediation role*

Paid adult support staff can be effective mediators or 'connectors' between different groups and individuals in the school community (Cluster A). Cluster C develops this idea, showing how paid adult support staff play important roles in

mediating between pupils, teachers, specialists, parents and even different cultures. Their impact on pupils' learning and participation should be seen in relation to the social and cultural dimension of pupils' lives and the school community, because their knowledge of pupils' cultures, behaviours, languages and interests can be utilised by paid adult support staff positively to impact the pupils' learning and participation.

The findings of this review are drawn from a comparatively small number of studies. However, the fact that the main themes emerging from each of them are reflected in other literature on the *role* of support staff suggests that they will strike a chord with professionals and researchers working in this field. Other writers – for example, Thomas *et al.* (1998), Mencap (1999), Balshaw and Farrell (2002), Fox (1998), Lorenz (1998) – all refer to the importance of TAs feeling part of a team and valued members of the school staff and they discuss at some length the dilemma between giving one-to-one support and more general classroom support. Therefore the findings of this review should add strength to the existing body of literature about the development of effective classroom support that enhances the promotion of inclusive practices. Indeed one of the advantages of carrying out this systematic review is that, through carrying out an in-depth review of key studies that address the two narrowly focused research questions, the findings resonate so strongly with the growing body of general literature in this area.

5.2 Implications

There are a number of implications for policy, practice and research that emanate from this review.

5.2.1 Policy

Despite some of the recent concerns expressed by the teaching unions, it is almost certain that the numbers of staff being employed as support workers in mainstream schools will continue to grow. It is also likely that their designations and responsibilities will become ever more complex. For example, it is now more common for there to be range of different grades of TAs working in one school, some of whom may be aspiring to become teachers. Furthermore, many schools now employ learning mentors, many of whom were former TAs, but who are now on a higher salary scale. There are also more literacy assistants and those supporting pupils whose first language is not English. Many writers, for example Balshaw and Farrell (2002), suggest that this rapid growth in the number of support staff and their constantly evolving roles has been allowed to take place within a policy vacuum both in the UK and overseas. One key consequence of this is that, by and large, the salary and conditions of service of support staff are far inferior to their teacher colleagues.

Typically TAs earn around £8,000 per year, about a third of the salary of an average teacher. They often do not get paid in the holidays and many are on temporary contracts. In order for salaries, conditions of service and career structures to be improved, it is important for there to be clear policies at local and national levels that address these issues.

Given these unfavourable employment conditions for support staff, the evidence for which is contained in studies and reports that fall outside this review (e.g. Farrell *et al.*, 1999; CSIE, 2000; DfES, 2000a; Ofsted, 2002), it is perhaps

surprising that this report uncovered so much evidence of their positive impact. Indeed, in all the 24 studies that were subject to the in-depth review, general findings indicate that the work of paid adult support staff was appreciated by teachers, parents and pupils. Although, as the above more detailed discussion of individual studies indicates, there were detailed aspects of support in which concerns were expressed, this does not detract from the overall positive view of the benefits that support can bring.

Other studies and reports referred to above also refer to concerns about the pre- and in-service training of support staff and about induction.

Therefore from a policy perspective the findings of this review and from other reports indicate the following:

- LEAs and schools should continue to employ support staff to work alongside teachers in mainstream classes.
- A nationally agreed structure for salary and conditions of service should be developed so that that job of a TA can be viewed as a profession in its own right.
- There should be an agreed procedure whereby TAs can, if they so wish, progress from being assistants to properly qualified teachers, without having to undergo a traditional four-year degree programme.
- Policies for training assistants and teachers who work with them should be continually reviewed. New entrants to the profession should be equipped with the necessary skills and knowledge to make an effective contribution right from the start; they should be provided with sufficient induction and in-service training opportunities; and there should be regular opportunities for teachers and assistants to undergo joint training.

5.2.2 Practice

This review echoes the literature on the tensions that exists between the value of one-to-one and group support. The way support is provided to pupils in a mainstream school is central to the debate about developing effective inclusive practices. This is primarily a question of balance and it is important not to generalise about the most effective method for *all* groups and individuals. However, there is evidence, in particular from studies in Clusters A and D above, of teachers and support staff perceiving that an overuse of one-to-one support can have a negative impact on participation. This is sometimes referred to as the 'Velcro' model of support with the child and assistant stuck together. This may prevent the child from making contact with his or her peer group so that he or she becomes segregated within the school. However, many pupils have major learning difficulties and require one-to-one attention for parts of the day in order for them to learn.

The potential for segregating support staff from their teacher colleagues that can result from the overuse of one to one support (see studies in Cluster A) has profound implications for practice in schools and classrooms as teachers and senior staff need to be alert to this danger and to find every means possible to help support staff to be welcome and valued members of each school's staff.

The findings reported in Cluster C that refer to the vitally important role that support staff can have as mediators between the community, pupils, parents and teachers has implications for the way in which all school staff draw on this potential to aid the learning and participation of all pupils. It is clearly important to

ensure that teachers and support staff have sufficient time to plan their work together so that the potential benefits of this mediating function can be exploited.

Therefore, from the point of view of developing effective classroom practice the findings of this review suggest the following:

- When planning individual programmes, one-to-one teaching, either in class or on a withdrawal basis, should be combined with supported group work in mainstream classes that facilitates all pupils' participation in peer group activities.
- Support staff and teachers need to be sensitive to the needs and wishes of all students and to review the situation frequently in order to achieve the right balance of individual and group work. Inevitably some compromises have to be made.
- It is important for support staff, teachers, and where appropriate pupils, to work together in planning and implementing programmes of work.
- Senior staff in schools need to allocate sufficient time for this planning to take place.

5.2.3 Research

The two large-scale statistical studies showed little or no evidence that the presence of TAs in the classroom had any impact on raising pupil attainment, a finding which contradicts the findings of Ofsted reports and the many anecdotal accounts from teachers, TAs, parents and pupils (see Balshaw and Farrell, 2002). This is the only finding from the review which is at odds with other literature. However, there are other studies in the review which suggest that well-designed, coordinated, small-scale research projects using a variety of different approaches can demonstrate how paid adult support staff can have a substantial impact on learning and participation. These studies throw light on the relationships between types of support, the focus of that support and the learning and participation of pupils.

The contrasting findings between the large- and small-scale studies are, in part, a consequence of the methodology that is adopted and on the measures that are used. Large-scale studies focus on measured pupil attainment as an outcome variable, whereas smaller-scale studies refer to a range of outcome measures including the perceptions of teachers, parents and assistants. In addition, it can be difficult in large-scale statistical studies to explain connections between input and output variables, and in particular the contradictory trends that may emerge. Smaller-scale studies often describe the approaches and methods used in some detail and these, therefore, help in providing explanations for the outcomes. However, these approaches are often context-specific, where the quality of the relationship between all the people involved is as important as more discrete variables, such as the age of the pupils, the training of the support staff and so on. The understanding generated by these studies does not lead to simple generalisable procedures such that when replicated they necessarily lead to the same successful outcomes in different settings. These methodological dilemmas are not uncommon in educational research and they highlight the real problems involved in coming to a firm conclusion that, in any area of teaching and learning, approach A works better than approach B. This has profound and ongoing implications for policy-makers at all levels, including class teachers, LEA officers, university academics and government ministers.

From a research perspective, therefore, the findings of this review suggest the following:

- There is scope for a broad range of methodologies, all of which need to be explicit about the approaches that they used and to justify them fully. However, it is also important not to make exaggerated claims from the findings. Findings from smaller-scale studies should continually be synthesised in an attempt to arrive at more generalisable conclusions about impact.
- The outcomes of more rigorous research should be set alongside the more anecdotal accounts from teachers and parents about the vitally important role that support staff play in schools. If teachers, pupils and parents believe that paid adult support staff are of value, then the quality of working relationships between those involved is likely to increase their positive impact.
- There is scope for more, larger-scale 'rigorous' systematic studies that focus on the views of teachers and assistants about the role of support staff. This might be done by carrying out a major postal and interview survey in which staff were asked to complete a series of questions about different aspects of support. Staff from different types of mainstream schools could be surveyed and their findings be contrasted with those from staff in special schools. The benefits from carrying out such a large-scale survey might offset the problems that would inevitably follow from such a study that relate to the lack of sensitivity to individual contexts in which support is carried out.
- Despite the methodological concerns reflected above, it is still important to design good quality trials of different interventions in which a number of variables (for example, the type of SEN, hours of support and the educational setting) are controlled and to assess the impact, perceived or 'measured', on the pupils. In addition, it would be important to look at the correlation between perceived and measured impact. Such studies might also reveal contradictory evidence of impact: for example, when pupils show measurable gains in attainment but increased levels of anxiety.
- There is a lack of research that has systematically sought pupils' views about the types of support that they most value. Given the nature of the pupils that are supported, such a study would have to employ a mixture of methods but would almost certainly rely on individual interviews and focus groups. From a large-scale study of this sort, it might be possible to draw comparisons between different groups of learners at different ages about the nature of the support that they feel is most beneficial.
- Further research is also needed on the views of non-supported pupils about the role of paid adult support and on whether or how these views might effect the contribution that the support staff can make.

5.3 Strengths and limitations of the review

One of the key strengths of this review, in the opinion of the authors, is that it addresses a highly topical question which has been little explored in literature reviews. In addition, because of the way in which the synthesis has been conducted, the evidence that exists which illuminates the question has been utilised to good effect. The review also has significant limitations. It is possible that significant studies have been missed through restrictions on language and through potential inadequacies in searching. In addition more complete information on the number of studies considered at each stage of the searching process would have demonstrated greater reliability in the process. Also, there are of necessity a series of compromises to be made in applying the rigorous procedures of systematic review to end up with a useful product which deals with a question on which relatively little primary research has been conducted. For

example, we consider that the construction of clusters of studies is a useful device in terms of developing understanding of impact in this area, but this clustering would not make sense if the studies which had relatively low weight of evidence were not used to strengthen the dimensions being established through this approach.

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APPENDIX 1.1: Advisory Group membership

International research

Judy Kugelmass, University of New York State

Local Education Authority (LEA)

Pat Elton (Redcar and Cleveland LEA)

Anne Connor, School Improvement Officer (Blackburn with Darwen LEA)

Garry Jones, Principal School Improvement Officer (Blackburn with Darwen LEA)

Headteachers

Dame Dela Smith, Beaumont Hills Special School, Darlington, and Special Educational Needs implementation Working Group (SENWG)

Vanessa Wiseman, Langdon School (Newham)

Teachers

Paul Dukes, Gilbrook School (Redcar and Cleveland LEA)

Support staff

Jane Barton, Learning Support Assistant, Parrs Wood High School, Manchester LEA

Karen Maddox, Learning Mentor, Parrs Wood High School, Manchester LEA

Charitable bodies

Mike Hughes (Barnardo's)

Darshan Sachdev (Lambeth, Southwark and Lewisham Health Authority)

Parents

Robina Mallett, National Association for Special Educational Needs (NASEN)

Editor of professional journal

Caroline Roaf (Support for Learning)

APPENDIX 2.1: Inclusion and exclusion criteria

Inclusion criteria

We reviewed all studies which met all the following criteria:

- They were written in the English language, given limitations on resources available for the review.
- They reported on the results of empirical research (see exclusion criteria).
- They were concerned with pre-school and compulsory schooling in schools serving a wide range of children in their locality.
- They were primarily concerned with the perceived and 'measured' impact of paid adult support in those schools.
- They concerned the impact of this support on an aspect of pupils' participation and / or one or more aspects of pupils' learning (progress or active engagement in learning activities).

Exclusion criteria

Studies were excluded from the review for the following reasons:

- Those that provided purely theoretical or exhortatory accounts of benefits, or otherwise, of paid adult support. This would include, for example, articles reflecting on changes to the social psychology of classrooms following the introduction of support staff and those that simply advocated enthusiastically for more support.
- Those that offered anecdotal impressions of the impact of support in schools. Some of this is in the form of case studies. Unless there was evidence that these accounts were based on research evidence that had been systematically collected and analysed, these were excluded from the review.
- Literature that traces the growth and development in the numbers of TAs and other support staff, and/or provides data about their training needs, the way they are managed or their conditions of service was excluded from the review. The only exception was for those studies that show how any one of these factors might have an impact on the learning and participation of pupils. Therefore a study that gave an account of a new training course for TAs and provides evidence that, as a result of them attending a course, the pupils for whom the TAs were responsible made measurable progress in learning would be included. Similarly a study that could demonstrate a link between changing the job description for a TA and improvements in pupils' learning and participation would be included.
- Research studies where the support offered was from other 'helping' professions, such as educational psychologists, speech and language therapists and occupational therapists.
- Research that took place in independent schools, withdrawal units, off-site units and other forms of special provision.
- Research that took place in post-16 educational provision.

Cut-off date

There were considerable difficulties in setting a specific cut-off date, given that this was an international review and that the directions and rates of policy development varied greatly between countries. In any case, there were relatively early studies which dealt with the practice of paid adult support on which this review focuses. For these reasons, we did not apply a cut-off date for searching.

APPENDIX 2.2: Search strategy for electronic databases

Databases searched

British Education Index
ERIC
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

Two search strategies are included as examples here, for ERIC and Psycinfo. Other strategies were variations on these.

ERIC search strategy

Searched via BIDS from 1980 to July 2003

NB: 'sh' denotes controlled vocabulary used by ERIC; 'ft' denotes free text term searched for in title or abstract.

#A Schools

#1 Bilingual schools (sh) or #2 British Infant schools (sh) or #3 Catholic schools (sh) or #4 Community schools (sh) or #5 Elementary schools (sh) or #6 High schools (sh) or #7 Inclusive schools (sh) or #8 Junior High schools (sh) or #9 Middle schools (sh) or #10 Neighbourhood schools (sh) or #11 Open plan schools (sh) or #12 Public schools (sh) or #13 Racially balanced schools (sh) or #14 Regional schools (sh) or #15 Rural schools (sh) or #16 Schools (sh) or #17 Secondary schools (sh) or #18 Small schools (sh) or #19 State schools (sh) or #20 Suburban schools (sh) or #21 Traditional schools (sh) or #22 Urban schools (sh) or #23 Secondary Modern schools (sh) or #24 Comprehensive schools (sh) or #25 Schools (ft)

#B Types of support

#26 Support (ft) or #27 Support assistants (ft) or #28 Learning support assistants (ft) or #29 Learning support (ft) or #30 Learning mentors (ft) or #31 Mentoring support (ft) or #32 Pupil mentoring (ft) or #33 Mentors or #34 School mentors (ft) or #35 Special support assistants (ft) or #36 Support staff (ft) or #37 Support assistants (ft) or #38 Paraprofessional (ft) or #39 Paraprofessional personnel or #40 Paraprofessional school personnel (sh) or #41 Teaching assistants (sh) or #42 Teaching aides (ft) or #43 Teacher aides (sh) or #44 Visual impaired support (ft) or #45 Visually impaired (ft) or #46 Visual impairments (sh) or #47 Visual support (ft) or #48 Hearing impairments (sh) or #49 Hearing support (sh) or #50 Speech and language support (ft) or #51 Speech impairment(s) (sh) or #52 Language impairment/support (sh) or #53 English as a foreign language (ft) or #54 EAL (ft) or #55 Behaviour support (ft) or #56 Ethnic minority (ft)/ groups/minority or #57 Autism (sh) or #58 Dyslexia (sh) or #59 Learning

difficulties / problems (sh) or #60 Severe difficulties (ft) or #61 Physical disabilities (sh)

#C Types of participation

#62 Participation (sh) or #63 School involve /particip. (sh) or #64 Student participation (sh) or #65 Teacher participation (sh) or #66 Engagement (ft) or #67 Involvement (ft) or #68 Inclusion (ft) or #69 Included (ft) or #70 Involve (ft) or #71 Mainstreaming (sh) or #72 Mainstream (sh) or #73 Integration (ft)

#D Participation in...

#74 Community or #75 School community (ft) or #76 Culture or #77 Culture (ft) or #78 School culture (ft) or #79 School culture or #80 Curriculum (ft) or #81 Curriculum (sh) or #82 Elem. sch. curriculum (sh) or #83 English curriculum (sh) or #84 National curriculum (sh) or #85 Secondary sch. Curr. (sh) or #86 School curriculum (ft) or #87 Classroom (sh) or #88 Playground (sh) or #89 Dinnertime (sh)

#E Outcomes

#91 Impact (ft) or #92 Effectiveness (ft) or #93 School effectiveness (sh) or #94 Effective schooling (ft) or #95 Effective schools research (sh) or #96 Outcomes of education*(sh) or #97 Outcomes (ft) or #98 Educational outcomes (ft) or #99 Instructional out's (ft) or #100 Student outcomes (ft) or #101 Pupil outcomes (ft) or #102 Results of education (ft) or #103 Learner outcomes (ft) or #104 Learning (sh) or #105 Learning activities (sh) or #106 Learning experience (sh) or #107 Academic achievement (sh) or #108 Progress (ft) or #109 Educational assessment (sh) or #110 Educational quality (sh) or #111 Student development (sh) or #112 Student perceptions (ft) or #113 Pupil perceptions (ft) or #114 Pupil attainment (ft) or #115 Attainment (ft) or #116 Student attainment (ft) or #117 Success (sh)

Final results: #A and #B and (#C and #D and #E)

PsycINFO

#1 Types of schools

Schools (sh)

#2 Types of support

Mentor (sh) or
Paraprofessional personnel (sh) or
Teacher aides (sh) or
Deaf (sh) or
Partially hearing impaired (sh) or
English as second language (sh) or
Disorders (sh) or
Disabled (sh) or
Special needs (sh)

#3 Types of participation

Participation (sh) or
Involvement (sh) or
Mainstreaming (educational) (sh) or
Educational placement (sh) or
School integration (sh) or
School integration (racial) (sh) or
Empowerment (sh) or

Commitment (sh)

#4 Participation in

Academic environment (sh) or
School club membership (sh) or
Curriculum (sh) or
Middle school education (sh) or
Elementary education (sh) or
Bilingual education (sh) or
Multicultural education (sh) or
Public school education (sh) or
Secondary education (sh) or
Remedial education (sh) or
Special education (sh) or
School learning (sh) or
School facilities (sh)

#5 Outcomes

Academic achievement (sh) or
Educational attainment level (sh) or
Academic failure (sh) or
Competence (sh) or
Academic underachievement (sh) or
Educational objectives (sh) or
Equal education (sh) or
Educational quality (sh) or
Student characteristics (sh) or
Performance (sh)

Final result: #1 and #2 and (#3 or #4 or #5) (277 studies)

The following websites were searched without finding any potential studies:

AERA www.aera.net

Barnardos: <http://www.barnardos.org.uk/About/Barnardos/publications>

BERA: <http://www.bera.ac.uk>

British Educational Communications and Technology Agency (BECTA):

<http://www.becta.org.uk/index.html>

CEDAR (Centre for Educational Development, Appraisal and Research):

<http://www.warwick.ac.uk/fac/soc/CEDAR/pubs.html>

Centre for Longitudinal Studies – Institute of Education

APPENDIX 2.3: Journals handsearched

British Journal of Special Education (1995-2002)

European Journal of Special Needs Education (1995-2002)

International Journal of Disability Development and Education (1995-2002)

International Journal of Inclusive Education (1998-2002)

Journal of Learning Disabilities (1998-2002)

Journal of Special Education (1995-2002)

Remedial and Special Education (1995-2002)

Support for Learning (1995-2002)

APPENDIX 2.4: EPPI keyword sheet including review-specific keywords

<p><i>General keywords</i></p> <p>A.1 Identification of report</p> <p>A.1.1 Citation</p> <p>A.1.2 Contact</p> <p>A.1.3 Handsearch</p> <p>A.1.4 Unknown</p> <p>A.1.5 Electronic database</p> <p>A.2 Status</p> <p>A.2.1 Published</p> <p>A.2.2 In press</p> <p>A.2.3 Unpublished</p> <p><i>A.3 Linked reports</i></p> <p>A.3.1 Not linked</p> <p>A.3.2 Linked</p> <p><i>A.4 Language (please specify)</i></p> <p>A.4.1 Details</p> <p><i>A.5 In which country/countries was the study carried out?</i></p> <p>A.5.1 Details</p> <p><i>A.6 What is/are the topic focus/foci of the study?</i></p> <p>A.6.1 Assessment</p> <p>A.6.2 Classroom management</p> <p>A.6.3 Curriculum</p> <p>A.6.4 Equal opportunities</p> <p>A.6.5 Methodology</p> <p>A.6.6 Organisation and management</p> <p>A.6.7 Policy</p> <p>A.6.8 Teacher careers</p> <p>A.6.9 Teaching and learning</p> <p>A.6.10 Other topic focus</p> <p><i>A.7 Curriculum</i></p> <p>A.7.1 Art</p> <p>A.7.2 Business Studies</p> <p>A.7.3 Citizenship</p> <p>A.7.4 Cross-curricular</p> <p>A.7.5 Design & Technology</p> <p>A.7.6 Environment</p> <p>A.7.7 General</p> <p>A.7.8 Geography</p> <p>A.7.9 Hidden</p> <p>A.7.10 History</p> <p>A.7.11 ICT</p> <p>A.7.12 Literacy - first language</p> <p>A.7.13 Literacy further languages</p> <p>A.7.14 Literature</p> <p>A.7.15 Maths</p> <p>A.7.16 Music</p> <p>A.7.17 PSE</p> <p>A.7.18 Phys. Ed.</p> <p>A.7.19 Religious Ed.</p> <p>A.7.20 Science</p>	<p><i>A.9 What is/are the population focus/foci of the study?</i></p> <p>A.9.1 Learners</p> <p>A.9.2 Senior management</p> <p>A.9.3 Teaching staff</p> <p>A.9.4 Non-teaching staff</p> <p>A.9.5 Other education practitioners</p> <p>A.9.6 Government</p> <p>A.9.7 Local education authority officers</p> <p>A.9.8 Parents</p> <p>A.9.9 Governors</p> <p>A.9.10 Other population focus</p> <p><i>A.10 Age of learners (years)</i></p> <p>A.10.1 0-4</p> <p>A.10.2 5-10</p> <p>A.10.3 11-16</p> <p>A.10.4 17-20</p> <p>A.10.5 21 and over</p> <p><i>A.11 Sex of learners</i></p> <p>A.11.1 Female only</p> <p>A.11.2 Male only</p> <p>A.11.3 Mixed sex</p> <p><i>A.12 What is/are the educational setting(s) of the study?</i></p> <p>A.12.1 Community centre</p> <p>A.12.2 Correctional institution</p> <p>A.12.3 Government department</p> <p>A.12.4 Higher education institution</p> <p>A.12.5 Home</p> <p>A.12.6 Independent school</p> <p>A.12.7 Local education authority</p> <p>A.12.8 Nursery school</p> <p>A.12.9 Post-compulsory education institution</p> <p>A.12.10 Primary school</p> <p>A.12.11 Pupil referral unit</p> <p>A.12.12 Residential school</p> <p>A.12.13 Secondary school</p> <p>A.12.14 Special needs school</p> <p>A.12.15 Workplace</p> <p>A.12.16 Other educational setting</p> <p><i>A.13 Which type(s) of study does this report describe?</i></p> <p>A.13.1 Description</p> <p>A.13.2 Exploration of relationships</p> <p>A.13.3 Evaluation</p> <p>A.13.4 Evaluation: naturally occurring</p> <p>A.13.5 Evaluation: researcher-manipulated</p> <p>A.13.6 Development of methodology</p> <p>A.13.7 Review</p> <p>A.13.8 Review: systematic review</p> <p>A.13.9 Review: other review</p>
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<p>A.7.21 Vocational A.7.22 Other curriculum</p> <p>A.8 Programme name (Please specify.) A.8.1 Details</p>	<p>A.14 Have keywords been applied in all categories? A.14.1 Yes A.14.2 No (Please specify.)</p>
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<p>Review-specific keywords</p> <p>B.1 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.</p> <p>B.1.1 Underachievement (e.g. including ethnic minority underachievement, boys, girls, etc., pupils who are still learning English as an additional language, gifted and talented pupils)</p> <p>B.1.2 Behaviour (e.g. behaviour, emotional and social)</p> <p>B.1.3 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)</p> <p>B.1.4 General: pupils who benefit from additional support not as through any particular characteristic or experience</p> <p>B.1.5 Not clear</p> <p>B.2 Categories of support personnel Paid adult support</p> <p>B.2.1 teaching assistants B.2.2 support teachers (including SENCO active in support) B.2.3 learning mentors B.2.4 other types</p> <p>B.3 Type of impact on participation and learning</p> <p>B.3.1 attainment B.3.2 behaviour / interaction B.3.3 attendance B.3.4 illness B.3.5 engagement in learning B.3.6 participation in school</p> <p>B.4 Data on impact</p> <p>B.4.1 national tests B.4.2 group tests B.4.3 individual assessment B.4.4 personality tests B.4.5 teacher rating scales B.4.6 classroom observation B.4.7 sociometric data B.4.8 pupil records</p>	<p>B.5 Perceptions of impact by</p> <p>B.5.1 teachers B.5.2 support staff B.5.3 school leadership B.5.4 governors B.5.5 parents B.5.6 external services (LEA personnel) B.5.7 external evaluator B.5.8 pupil receiving support B.5.9 other pupils</p> <p>B.6 Data on perceived impact</p> <p>B.6.1 questionnaire B.6.2 semi-structured interview B.6.3 diaries B.6.4 anecdotal accounts</p> <p>B.7 Type of support</p> <p>B.7.1 support within the curriculum (e.g. in the literacy hour, or PE) B.7.2 support outside the classroom B.7.3 support through work with parents and families</p>
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APPENDIX 3.1: Details of keyworded studies

<i>Item</i>	<i>Pupil focus (intended beneficiaries of support)</i>	<i>Categories of support personnel</i>	<i>Type of impact</i>	<i>Data on impact</i>	<i>Perceptions of impact by</i>	<i>Data on perceived impact</i>	<i>Type of support</i>
Bennett <i>et al.</i> (1996) Getting to know Abby EPPI study type: descriptive	Disability	Teaching assistants	Attainment Behaviour / interaction	None	Parents	Diaries	Support within the curriculum Support through work with parents and families
Blatchford <i>et al.</i> (2001) Pupil adult ratio differences and educational progress over key stage 1 EPPI study type: Naturally- occurring evaluation	General	Teaching assistants	Attainment	National tests Group tests Teacher rating scales	Teachers	Questionnaires Interviews	Support within the curriculum
Bowers (1997) Supporting special needs in the mainstream classroom: children's perceptions of the adult role EPPI study type: descriptive	Under-achievement	Teaching assistants	Engagement in learning Participation in school	None	Pupil receiving support other pupils	Semi-structured interview	Support within the curriculum
Duffield (1998) School support for lower achieving pupils EPPI study type: exploration of relationships	Under-achievement	Teaching assistants	Attainment	National tests	Teachers	Semi-structured interview	Support within the curriculum
Frelow <i>et al.</i> (1974) Academic progress and behavioural changes in low achieving pupils EPPI study type: descriptive	Under-achievement Behaviour	Teaching assistants	Attainment Behaviour / interaction	Group tests Individual assessment Pupil records	Teachers Support staff External evaluator	None	Support within the curriculum
French and Chopra (1999) Parent perspectives on the roles of paraprofessionals EPPI study type: descriptive	General	Teaching assistants	Participation in school	Sociometric data	Parents	Questionnaire	Support within the curriculum Support outside the classroom
Gerber <i>et al.</i> (2001) Teacher aides and students' academic achievement EPPI study type: researcher-manipulated evaluation	General	Teaching assistants	Attainment	Group tests Sociometric data	Teachers Support staff External evaluator	Questionnaire Diaries	Support within the curriculum

<i>Item</i>	<i>Pupil focus (intended beneficiaries of support)</i>	<i>Categories of support personnel</i>	<i>Type of impact</i>	<i>Data on impact</i>	<i>Perceptions of impact by</i>	<i>Data on perceived impact</i>	<i>Type of support</i>
Giangreco <i>et al.</i> (1997) Helping or hovering? Effects of instructional assistant proximity on students with disabilities EPPI study type: Naturally -occurring evaluation	Disability	Teaching assistants	Engagement in learning	Classroom observation	Teachers Support staff School leadership Parents	Semi-structured interview	Support within the classroom
Giangreco <i>et al.</i> (2001) Teacher engagement with students with disabilities: differences between paraprofessional service delivery models EPPI study type: exploration of relationships	Disability	Teaching assistants Support teachers (including SENCO active in support)	Attainment Behaviour / interaction	Classroom observation	Teachers Support staff School leadership	Semi-structured interview	Support within the curriculum
Hall <i>et al.</i> (1995) Promoting independence in integrated classrooms by teaching aides to use activity schedules and decreased prompts EPPI study type: researcher-manipulated evaluation	Disability	Teaching assistants	Engagement in learning	Classroom observation	Support staff External evaluator	Questionnaire	Support within the curriculum
Knoff (1984). Stimulus control, paraprofessionals, and appropriate playground behaviour EPPI study type: researcher-manipulated evaluation	Behaviour	Teaching assistants	Behaviour / interaction	Teacher rating scales Classroom observation	Teachers Support staff	Anecdotal accounts	Support outside the classroom
Lacey (2001) The role of learning support assistants in the inclusive learning of pupils with severe and profound learning difficulties EPPI study type: descriptive	Disability	Teaching assistants	Attainment Engagement in learning	Classroom observation	Teachers Support staff parents Pupil receiving support	Questionnaire <i>and other: telephone survey</i>	Support within the curriculum
Loos <i>et al.</i> (1977) A multi-element analysis of the effect of teacher aides in an 'open'- style classroom EPPI study type: researcher-manipulated evaluation	General	Teaching assistants	Attainment Engagement in learning	Group tests Classroom observation Pupil records	Teachers External evaluator	Semi-structured interview	Support within the curriculum

<i>Item</i>	<i>Pupil focus (intended beneficiaries of support)</i>	<i>Categories of support personnel</i>	<i>Type of impact</i>	<i>Data on impact</i>	<i>Perceptions of impact by</i>	<i>Data on perceived impact</i>	<i>Type of support</i>
Lundeen and Lundeen (1993) Effectiveness of mainstreaming with collaborative teaching EPPI study type: descriptive	Under-achievement Behaviour Disability	Teaching assistants	Attainment	teacher rating scales Pupil records	External evaluator	None	Support within the curriculum
Marks <i>et al.</i> (1999) Paraeducator experiences in inclusive settings: helping, hovering, or holding their own? EPPI study type: descriptive	Behaviour Disability	Teaching assistants	Attainment	teacher rating scales Pupil records	Support staff External evaluator	Semi-structured interview	Support within the curriculum
Monda-Amaya <i>et al.</i> (1998) Preparing students with learning disabilities to participate in inclusive classrooms EPPI study type: exploration of relationships	Disability	Teaching assistants	Attainment Behaviour / interaction	Classroom observation Pupil records	Teachers Pupil receiving support	Semi-structured interview Diaries	Support within the curriculum
Monzo and Rueda (2001) Sociocultural factors in social relationships: examining Latino teachers' and paraeducators' interactions with Latino students EPPI study type: descriptive	Under-achievement	Teaching assistants	Attainment Engagement in learning	National tests teacher rating scales Pupil records	Support staff External evaluator	Questionnaire Semi-structured interview	Support within the curriculum Support outside the classroom
Moyles and Suschitzky (1997) Jills of All Trades: Classroom Assistants in KS1 Classes. EPPI study type: exploration of relationships	Under-achievement Behaviour Disability General	Teaching assistants	Attainment Engagement in learning	Classroom observation	Teachers Support staff School leadership	Questionnaire Semi-structured interview	Support within the curriculum
Roberts and Dyson (2002) Final evaluation report of the Learning Support Assistants Project EPPI study type: descriptive	General	Teaching assistants	Attainment Behaviour / interaction Attendance Engagement in learning	National tests Individual assessment Sociometric data Pupil records	Teachers Support staff School leadership Pupil receiving support	Semi-structured interview Anecdotal accounts	Support within the curriculum
Rose (2000) Using classroom support in a primary school: a single school case study EPPI study type: descriptive	Disability	Teaching assistants	Attainment Engagement in learning	Classroom observation	Teachers	Semi-structured interview	Support within the curriculum

<i>Item</i>	<i>Pupil focus (intended beneficiaries of support)</i>	<i>Categories of support personnel</i>	<i>Type of impact</i>	<i>Data on impact</i>	<i>Perceptions of impact by</i>	<i>Data on perceived impact</i>	<i>Type of support</i>
Vander Kolk (1973) Paraprofessionals as psychotherapeutic agents with moderately disturbed children EPPI study type: researcher-manipulated evaluation	Behaviour	Teaching assistants	Behaviour / interaction	Individual assessment Teacher rating scales	Teachers Support staff	Questionnaire Semi-structured interview	Support outside the classroom
Welch <i>et al.</i> (1995) A consultation and paraprofessional pull-in system of service delivery: a report on student outcomes and teacher satisfaction EPPI study type: descriptive	General	Teaching assistants	Attainment Engagement in learning	Individual assessment Teacher rating scales	Teachers	Questionnaire Semi-structured interview	Support within the curriculum
Werts <i>et al.</i> (2001) Paraprofessional proximity and academic engagement: students with disabilities in primary aged classrooms EPPI study type: naturally- occurring evaluation	Behaviour Disability	Teaching assistants	Attainment Behaviour / interaction Engagement in learning	Classroom observation	School leadership External evaluator	Anecdotal accounts	Support within the curriculum
Young <i>et al.</i> (1997) An examination of paraprofessional involvement in supporting inclusion students with autism EPPI study type: naturally occurring evaluation	Behaviour	Teaching assistants	Behaviour / interaction Engagement in learning	Classroom observation	External evaluator	Anecdotal accounts	Support within the curriculum

APPENDIX 3.2: Number of studies by review-specific keyword

Review-specific keywords	Keyworded then excluded	Keyworded and included in systematic map
B.1 Pupil focus		
B.1.1 Underachievement	10	6
B.1.2 Behaviour	3	8
B.1.3 Disability	12	11
B.1.4 General	8	8
B.1.5 Not clear		
B.2 Categories of support personnel		
B.2.1 Teaching assistants	20	24
B.2.2 Support teachers (including SENCO active in support)	16	1
B.2.3 Learning mentors		
B.2.4 Other types	5	
B.3 Type impact on participation / learning		
B.3.1 Attainment	15	17
B.3.2 Behaviour / interaction	12	9
B.3.3 Attendance	1	1
B.3.4 Illness		
B.3.5 Engagement in learning	15	11
B.3.6 Participation in school	20	1
B.4 Data on impact		
B.4.1 National tests	6	4
B.4.2 Group tests		5
B.4.3 Individual assessment	1	4
B.4.4 Personality tests		

Review-specific keywords	Keyworded then excluded	Keyworded and included in systematic map
B.4.5 Teacher rating scales	5	6
B.4.6 Classroom observation	6	11
B.4.7 Sociometric data	5	3
B.4.8 Pupil records	2	6
B.4.9 None	18	
B.5 Perceptions of impact by		
B.5.1 Teachers	18	14
B.5.2 Support staff	11	13
B.5.3 School leadership	3	5
B.5.4 Governors		
B.5.5 Parents	7	4
B.5.6 External services (LEA personnel)	1	
B.5.7 External evaluator		9
B.5.8 Pupil receiving support	4	4
B.5.9 Other pupils	1	1
B.6 Data on perceived impact		
B.6.1 Questionnaire	12	9
B.6.2 Semi-structured interview	12	13
B.6.3 Diaries	2	3
B.6.4 Anecdotal accounts	3	4
B.7 Type of support		
B.7.1 Support within the curriculum	29	22
B.7.2 Support outside the classroom	3	4
B.7.3 Support through work with parents and families		1

APPENDIX 3.3: Characteristics of keyworded studies

In addition to the 24 studies that were included in the systematic map and in-depth review, another 43 studies were subject to the keywording process in the process of making decisions about inclusion and exclusion of studies. The fact that these studies were so carefully scrutinised represents the difficulty of applying inclusion and exclusion criteria without subjecting studies to a detailed reading. Since this group of studies were keyworded primarily as part of the process of decision-making, they are not a representative sample of the papers in the field, and patterns of research indicated within this group should not be seen as indicative of research in the whole field generally. Nevertheless, details of the 67 studies which went through the keywording process do provide some indication of the kind of studies which were considered for review beyond the relatively small number of 24 studies eventually subject to in-depth review. Several features of this group are worth mentioning here:

- In terms of pupil focus, the dominant categories in this set of research are underachievement and disability, with relatively few studies (11 out of 67) concerning behaviour.
- Most research concerns the work of TAs (44 out of 67), with the majority of the rest concerning support teachers, and no studies looking at the relatively new group of learning mentors in schools.
- The area of impact considered is on attainment in nearly half of the studies (32 out of 67), on engagement in learning in 26 studies, and on participation in school in 21 studies, with only two studies considering impact on attendance.
- Seventeen studies include data on impact from observations in classrooms, while national tests of attainment are used in 10 studies, and teacher rating scales used in 11 studies.
- Compared with this, data on perceptions of impact come mainly from teachers and support staff (over half the studies) and only eight studies include data from the pupils receiving support.
- Most of the data on perceived impact are generated from interviews and questionnaires, with just five studies making use of participant diaries.
- Finally, almost all these studies (51 out of 67) focus on support within the curriculum and do not extend the focus outside the classroom to the school generally or to parents or families.

APPENDIX 4.1: Details of studies included in the in-depth review (classification according to review-specific questions)

<i>Item</i>	<i>Who is being supported?</i>	<i>Purposes of support: what do the intended outcomes relate to?</i>	<i>On which of the following has support had a positive or negative impact?</i>	<i>What external or standardised data is provided as evidence of this impact?</i>	<i>What other data is provided as evidence of perceived impact?</i>	<i>Whose perceptions about impact are so described?</i>	<i>Overall, what type of link is suggested between support and participation or learning?</i>	<i>Is the link demonstrated?</i>
Achilles <i>et al.</i> (2000) It's time to drop the other shoe: the evidence on teacher aides	General	Learning	Attainment	Group tests	Other	Other	Correlational analysis	Yes
Bennett <i>et al.</i> (1996) Getting to know Abby	Disability or SEN	Participation Learning	Attainment Behaviour / interaction Engagement in learning Participation in school	Ethnographic accounts	Semi-structured interview anecdotal accounts	Parents	Stakeholder accounts	Yes
Blatchford <i>et al.</i> (2001) Pupil-adult ratio differences and educational progress over Key Stage 1	General Other	Learning	Attainment Behaviour / interaction Attendance Engagement in learning Participation in school Health issues	National tests Teacher rating scales	Questionnaire Semi-structured interview Anecdotal accounts Other	Teachers	Correlational analysis Stakeholder accounts	Yes
Bowers (1997) Supporting special needs in the mainstream classroom: children's perceptions of the adult role	Behaviour Disability or SEN	Other	Behaviour / interaction Engagement in learning Participation in school	None	Questionnaire Semi-structured interview	Pupil receiving support Other pupils	Stakeholder accounts	Yes
Duffield (1998) School support for lower achieving pupils	Under-achievement Behaviour	Participation Learning	Attainment Behaviour / interaction	Systematic observation Ethnographic accounts	Semi-structured interview Anecdotal accounts	Pupil receiving support Other pupils Support staff	Descriptive account Stakeholder accounts	No

<i>Item</i>	<i>Who is being supported?</i>	<i>Purposes of support: what do the intended outcomes relate to?</i>	<i>On which of the following has support had a positive or negative impact?</i>	<i>What external or standardised data is provided as evidence of this impact?</i>	<i>What other data is provided as evidence of perceived impact?</i>	<i>Whose perceptions about impact are so described?</i>	<i>Overall, what type of link is suggested between support and participation or learning?</i>	<i>Is the link demonstrated?</i>
	Disability or SEN General		Attendance Participation in school	accounts	accounts	Teachers School leadership External (LEA or university personnel)		
Frelow <i>et al.</i> (1974) Academic progress and behavioural changes in low achieving pupils	Other	Other	Attainment Behaviour / interaction Engagement in learning	Teacher rating scales Other	Semi-structured interview	Support staff Teachers	Correlational analysis	Yes
French and Chopra (1999) Parent perspectives on the roles of paraprofessionals	Not clear	Participation Learning	Attainment Behaviour / interaction Engagement in learning Participation in school Health issues	None	Semi-structured interview	Parents	Descriptive account Stakeholder accounts	Yes
Gerber <i>et al.</i> (2001) Teacher aides and students' academic achievement	General	Other	Attainment	National tests	Other	Other	Correlational analysis	Yes
Giangreco <i>et al.</i> (1997) Helping or hovering? Effects of instructional assistant proximity on students with disabilities	Under-achievement Behaviour General	Participation Learning Other	Attainment Behaviour / interaction Attendance Engagement in learning Participation in school Health issues	Systematic observation	Semi-structured interview Other	Support staff Teachers Parents School leadership	Descriptive account A detailed analysis of the interactions Stakeholder accounts	Yes
Giangreco <i>et al.</i> (2001) Teacher engagement with students with disabilities: differences between paraprofessional service delivery	Disability	Participation	Behaviour / interaction Engagement in learning	None	Semi-structured interview	Support staff Teachers School leadership	Stakeholder accounts	Yes

<i>Item</i>	<i>Who is being supported?</i>	<i>Purposes of support: what do the intended outcomes relate to?</i>	<i>On which of the following has support had a positive or negative impact?</i>	<i>What external or standardised data is provided as evidence of this impact?</i>	<i>What other data is provided as evidence of perceived impact?</i>	<i>Whose perceptions about impact are so described?</i>	<i>Overall, what type of link is suggested between support and participation or learning?</i>	<i>Is the link demonstrated?</i>
models			learning Participation in school			Pupils		
Hall <i>et al.</i> (1995) Promoting independence in integrated classrooms by teaching aides to use activity schedules and decreased prompts	Disability	Participation Learning	Behaviour / interaction Engagement in learning	Systematic observation	Semi-structured interview	Support staff Teachers Pupils	A detailed analysis of the interactions	Yes
Knoff (1984) Stimulus control, paraprofessionals, and appropriate playground behaviour	General	Participation Learning	Behaviour / interaction	Teacher rating scales Systematic observation	Semi-structured interview	Support staff	Correlational analysis	Yes
Lacey (2001) The role of Learning Support Assistants in the inclusive learning of pupils with severe and profound learning difficulties	Disability or SEN	Participation Learning	Engagement in learning Participation in school	Systematic observation	Semi-structured interview	Support staff	Descriptive account	No
Loos <i>et al.</i> (1977) A multi-element analysis of the effect of teacher aides in an 'open'-style classroom	General	Learning	Engagement in learning	Systematic observation Other	Other	Support staff	A detailed analysis of the interactions	Yes
Lundeen and Lundeen(1993) Effectiveness of mainstreaming with collaborative teaching	Behaviour Disability or SEN General	Learning	Attainment	National tests Other	Semi-structured interview	Support staff	Correlational analysis	Yes
Marks <i>et al.</i> (1999) Paraeducator experiences in inclusive settings: helping, hovering, or holding their own?	Behaviour Disability or SEN	Participation Learning	Attainment Behaviour / interaction Engagement in learning Participation in school	Ethnographic accounts	Semi-structured interview Anecdotal accounts	Support staff	Descriptive account Stakeholder accounts	Yes
Monda-Amaya <i>et al.</i> (1998) Preparing students with learning	Disability	Other	Engagement in learning	Teacher rating scales	Semi-structured interview	Pupil receiving support	Descriptive account	Yes

<i>Item</i>	<i>Who is being supported?</i>	<i>Purposes of support: what do the intended outcomes relate to?</i>	<i>On which of the following has support had a positive or negative impact?</i>	<i>What external or standardised data is provided as evidence of this impact?</i>	<i>What other data is provided as evidence of perceived impact?</i>	<i>Whose perceptions about impact are so described?</i>	<i>Overall, what type of link is suggested between support and participation or learning?</i>	<i>Is the link demonstrated?</i>
disabilities to participate in inclusive classrooms	or SEN		learning Participation in school	scales Other	interview	Support staff Teachers	Stakeholder accounts	
Monzo and Rueda (2001) Sociocultural factors in social relationships: examining Latino teachers' and paraeducators' interactions with Latino students	Other	Participation Learning	Behaviour / interaction Engagement in learning Participation in school	Systematic observation Ethnographic accounts	Semi-structured interview Anecdotal accounts	Support staff Teachers School leadership External (LEA or university personnel)	Descriptive account Stakeholder accounts	Yes
Moyles and Suschitzky (1997) Jills of All Trades: Classroom Assistants in KS1 Classes.	Disability or SEN General	Participation Learning	Attainment Behaviour / interaction Engagement in learning Participation in school	Systematic observation	Questionnaire Semi-structured interview	Pupil receiving support Other pupils Support staff Teachers School leadership	Correlational analysis Stakeholder accounts	Yes
Roberts and Dyson (2002) Final evaluation report of the Learning Support Assistants Project	General	Learning	Attainment	National tests Group tests	Semi-structured interview Pupil records	Support staff Teachers School leadership External (LEA or university personnel)	Descriptive account Correlational analysis	No
Rose (2000) Using classroom support in a primary school: a single school case study	Disability or SEN	Participation Learning	Behaviour / interaction Engagement in learning	Systematic observation	Semi-structured interview Anecdotal accounts Other	Teachers Other	Descriptive account	No
Vander Kolk (1973) Paraprofessionals as psychotherapeutic agents with moderately disturbed children	Behaviour	Other	Behaviour / interaction Health issues Other	Personality tests Teacher rating scales	Questionnaire	Support staff	Descriptive account A detailed analysis of the interactions	No

<i>Item</i>	<i>Who is being supported?</i>	<i>Purposes of support: what do the intended outcomes relate to?</i>	<i>On which of the following has support had a positive or negative impact?</i>	<i>What external or standardised data is provided as evidence of this impact?</i>	<i>What other data is provided as evidence of perceived impact?</i>	<i>Whose perceptions about impact are so described?</i>	<i>Overall, what type of link is suggested between support and participation or learning?</i>	<i>Is the link demonstrated?</i>
Welch <i>et al.</i> (1995) A consultation and paraprofessional pull-in system of service delivery: A report on student outcomes and teacher satisfaction	Under-achievement	Learning	Attainment	National tests Other	Questionnaire	Teachers	Descriptive account A detailed analysis of the interactions Stakeholder accounts	Yes
Werts <i>et al.</i> (2001) Paraprofessional proximity and academic engagement: students with disabilities in primary aged classrooms	Disability or SEN	Other	Engagement in learning	Systematic observation	Other	Other	Correlational analysis	Yes
Young <i>et al.</i> (1997) An examination of paraprofessional involvement in supporting inclusion students with autism	Disability or SEN	Participation Learning Other	Behaviour / interaction Engagement in learning Other	Systematic observation	None	None	Correlational analysis	No

APPENDIX 4.2: Abstracts of included studies

(All abstracts are taken from the reports of the included studies)

Bennett T, Rowe V, DeLuca D (1996) Getting to know Abby. *Focus on Autism and Other Developmental Disabilities* **11**(3): 183-88.

This article presents a case study of a child with autism educated in a regular education classroom. It identifies key factors in the child's successful inclusion: (1) knowing the child's needs; (2) having a positive attitude; (3) in-service training for staff; (4) the involvement of teachers, therapists, and support staff in team planning; and (5) parent participation.

Blatchford P, Martin C, Moriarty V, Bassett P, Goldstein (2001) Pupil Adult Ratio Differences and Educational Progress over Key Stage 1. London, Institute of Education, University of London: 90. This is part of a larger study on class size differences, which was designed to help resolve a number of questions about the educational effects of class size differences and pupil adult ratios at Key Stage 1 (KS1). This component of the research project addressed three aspects connected to Teaching Assistants (TAs) in KS1 classrooms: first, descriptive information on numbers and types of TAs and other adults working in classes and how these related to class sizes; second, whether there were measurable effects of the presence of TAs and other adults on children's educational progress; and, third, whether the presence of TAs and other adults affected a number of 'classroom processes', such as the amount of time spent on teaching, in different curriculum areas, and hearing children read, as well as teacher self-perceptions, such as stress and enthusiasm.

The numerical analysis of relationships between numbers of staff and adults in addition to the class teacher, and class size, on the one hand, and pupils' educational progress over reception, Y1 and Y2, on the other hand, showed the most significant effects for class size were in the reception year. There were no clear effects for additional staff and adults in any of the three years of KS1. The clear view of teachers themselves was that smaller classes were beneficial. The most noticeable effects on children's educational progress, particularly in the reception year, were therefore as a result of class size, and there was no obvious effect of extra staff or parents. The results suggest there is a need to articulate more deliberately what kinds of pedagogy (i.e. role in direct teaching interactions) are relevant, in the case of teaching assistants, and to use this to inform training.

Bowers T (1997). Supporting special needs in the mainstream classroom: children's perceptions of the adult role. *Child-Care, Health and Development* **23**(3): 217-232.

Abstract examined the responses of 713 children (aged 7-14+ yrs) attending schools in London to 10 questions relating to the role of adults supporting special educational needs children in their classrooms and to the social desirability of being singled out for support. Responses were classified into five broad types: (1) help for the teacher, (2) the disciplinary function, (3) pupil-focused attention/help for the child, (4) differentiation by ability or need, and (5) support teacher as lower-order professional. The findings suggest that the majority of those responding saw the support being directed toward the teacher's needs. The recognition of pupils' needs was less frequently expressed. The desirability support became challenged by some children in the upper age range of the sample. Reasons for this and the implications for inclusive education are considered.

Duffield J (1998) School support for lower achieving pupils. *British Journal of Special Education* **25**(3): 126-134.

Jill Duffield, a Research Fellow in the Institute of Education, University of Sterling, reports on a study in a Scottish local authority of four schools focusing upon measures of school effectiveness and socio-economic status (SES). Factors influencing the progress of lower achieving pupils in the early secondary years are also considered, including the pupil support systems in place: learning support, behavioural support and guidance.

Frelow RD, Charry J, Freilich B (1974) Academic progress and behavioral changes in low achieving pupils. *Journal of Educational Research* **67**(6): 263-266.

Abstract ministered the Metropolitan Achievement Tests to 76 2nd and 57 3rd graders before and after the introduction of assistant teachers to 1st-, 2nd-, and 3rd-grade classrooms. Results show at 2nd and 3rd graders in the lower quartile (Q1) in reading and mathematics achievement made significant progress in these skills compared with previous expectancies. To test for changes in behaviour concurrent with changes in achievement, a rating scale along 12 dimensions of social and emotional growth was developed and cross-validated using correlation equations between teacher and teaching assistant perceptions of behavioural change. As a group, Q1 children were viewed as free of problems on all 12 dimensions. (PsycINFO Database Record (c) 2002 APA, all rights served)

French NK (1999) Parent perspectives on the roles of paraprofessionals. *Journal of the Association for Persons with Severe Handicaps* **24**(4): 259-272.

Nineteen mothers of 23 children who received special education services in inclusive classrooms with support from paraprofessionals found that the mothers identified closely with paraprofessionals and believed that they were compassionate, dedicated people who functioned in four major roles: connector, team member, instructor and physical caregiver. Turnover is discussed. (Contains references.) (Author/CR)

Gerber SB, Finn JD, Achilles CM, Boyd-Zaharias J (2001) Teacher aides and students' academic achievement. *Educational Evaluation and Policy Analysis* **23**(2): 123-144.

This study examined the effects of teacher aides on students' academic achievement, addressing: whether the presence of a fulltime aide in K-3 classrooms would affect student achievement; whether the presence of an aide in the primary grades would affect students' later academic achievement (grades 4, 6, and 8); and whether the nature of aide duties would affect student achievement. Data came from Project STAR (Student Teacher Achievement Ratio), a longitudinal study of the effects of class size and teacher aides on student performance. Researchers collected achievement test scores for students in grades K-3, 4, 6, and 8 and time logs and questionnaires completed by teacher aides in grades 1-3. Results indicated that teacher aides had little if any positive effect on classroom achievement. There was some indication that the presence of an aide may positively affect students' reading achievement in the primary years, but only for students with extended participation in classrooms with aides. Results found that the extent to which aides performed various types of duties did not affect student achievement. The researchers conclude that teacher aides are not a suitable substitute for small classes in the early grades.

Giangreco MF, Broer SM, Edelman SW (2001) Teacher engagement with students with disabilities: differences between paraprofessional service delivery models. *Journal-Association for Persons with Severe Handicaps* **26**(2): 75-86.

The level of engagement that general education teacher have with students with disabilities in their classrooms has been identified in the literature as a key factor affecting the success of inclusive educational experiences. This study describes differences in teacher engagement identified within two approaches to providing paraprofessional supports in general education classrooms; program-based and one-on-one. Findings were based on the observed and reported experiences of 103 school personnel (e.g. teachers, special educators, paraprofessionals, administrators) from four schools (grades K-12). The study describes characteristics of teacher engagement and disengagement, the involvement of special education, and phenomena associated with teacher disengagement when one-on-one paraprofessional service delivery was used. The discussion presents implications of these data for school improvement.

Giangreco M, Edelman S, Luiselli T, MacFarland S (1997) Helping or hovering? Effects of instructional assistant proximity on students with disabilities. *Exceptional Children* **64**: 7-18.

Observations and interviews in 16 classrooms concerning proximity of instructional assistants to students with disabilities found: (1) interference with general educator responsibility; (2)

separation from classmates; (3) dependence on adults; (4) impact on peer interactions; (5) limitations on receiving competent instruction; (6) loss of personal control; (7) loss of gender identity; and (8) interference with instruction of other students.

Hall LJ, McClannahan L, Krantz P (1995) Promoting independence in integrated classrooms by teaching aides to use activity schedules and decreased prompts. *Education and Training in Mental Retardation* **30**: 208-217.

This study aimed to increase the independent engagement of integrated elementary students with disabilities, by decreasing prompts from aides and using pictorial activity schedules to diminish dependence on adult support. A non-concurrent multiple-baseline design, replicated across three aide-child pairs, revealed that the intervention resulted in prompt reduction by the integration aides.

Knoff HM (1984) Stimulus control, paraprofessionals, and appropriate playground behaviour. *School Psychology Review* **13**(3): 249-253.

Abstract describes an intervention in which a classroom teacher's stimulus control was successfully generalised to a paraprofessional teacher's aide who supervised playground behaviour. The generalisation procedure, which involved the provision of positive reinforcement contingent on appropriate behaviour, significantly increased the appropriate behaviour of two target males, aged 9 and 10 years, who had consistently manifested disruptive/aggressive and defiant behaviours.

Lacey P (2001) The role of Learning Support Assistants in the inclusive learning of pupils with severe and profound learning difficulties. *Educational Review* **53**(2): 157-67.

Observations and interviews were used to examine practices of learning support assistants working with students with severe or profound/multiple learning disabilities in 24 inclusive British schools. The most effective assistants supported groups rather than individuals, offered just the right amount of support, had time for planning and reporting to teachers, and felt valued. (Contains 21 references.) (SK)

Loos FM, Williams KP, Bailey JS (1977) A multi-element analysis of the effect of teacher aides in an 'open' style classroom. *Journal of Applied Behavior Analysis* **10**(3): 437-448.

Researchers assessed the effects of three types of teacher aides on student achievement and on-task behaviour by comparing each with a standard no-aide condition. Students were 54 3rd graders in two open-style classrooms. The three types of aide – helping adult, disciplinary adult and helping 5th-grade aide – were compared in a multi-element design with a no-aide control. Results show that the helping-adult aide significantly affected the academic output of the class when compared with the no-aide condition. All aide conditions produced more academic work and on-task behaviour than did the standard no-aide condition.

Lundeen C, Lundeen DJ (1993) Effectiveness of mainstreaming with collaborative teaching. Paper presented at the Annual Convention of the American Speech-Language-Hearing Association. Anaheim, CA, USA: November 19-22. ERIC document number ED368127.

Morgantown (West Virginia) High School developed and implemented a collaborative teaching service delivery model, in which special education students enrolled in given subjects were mainstreamed into regular classes. A regular educator and a special educator were jointly assigned to the classroom to team teach the curriculum. The special and regular educators were jointly responsible for choosing teaching methods, curriculum formats, learning strategies, study skills, and evaluation methods for all students. The regular educator contributed expertise in content matters, whereas the special educator contributed expertise in learning, modification, and evaluation strategies. This paper evaluates whether the programme was an effective teaching tool. Fifteen classes were included in the evaluation, involving eight regular educators, five special educators, and a total of 318 students. Special education students had learning disabilities, hearing impairments, behaviour disorders, mild mental impairments, or limited English

proficiency. Results are analysed in terms of reading comprehension scores, previous grades in traditional classes, grades in the collaborative teaching programme, comparison by student category, teaching team and content area interactions, mean grade point overall and by content area, and grade changes for individual students. Analysis indicated that all students in the Collaborative Teaching Program performed equivalently, despite substantially poorer reading comprehension scores of special education students. All students' grades improved after their enrolment in collaboratively taught classes. (JDD)

Marks SU, Schrader C, Levine M (1999) Paraeducator experiences in inclusive settings: helping, hovering, or holding their own? *Exceptional Children* **65**: 315-328.

The perspectives and experiences of 20 paraeducators working with inclusion students with disabilities (grades K-8) who also present significant behavioural challenges found that paraeducators tended to assume high levels of responsibility for managing the academic and behavioural needs of special-education students in inclusive settings.

Monda-Amaya LL, Dieker L, Reed F (1998) Preparing students with learning disabilities to participate in inclusive classrooms. *Learning Disabilities Research and Practice* **13**(3): 171-182. A study investigated the effectiveness of a program that provided systematic training and support to ensure the successful inclusion of five seventh-grade students with learning disabilities into a general-education setting co-taught by general and special educators. A self-monitoring system was implemented to provide support to students.

Monzo L, Rueda R (2001) Sociocultural factors in social relationships: Examining Latino teachers' and paraeducators' interactions with Latino students. Research Report.

Sociocultural theory emphasises the social nature of learning and the cultural-historical contexts in which interactions take place. Thus, teacher-student interactions and the relations that are fostered through these contexts play an especially vital role in student achievement. It has been argued that culturally responsive instruction can have a positive impact on interactions between teachers and students. This paper explores the effect of sociocultural factors on the relationships and interactions between Latino students and 32 Latino teachers and paraeducators. Findings suggest that knowledge of students' culture and communities, their primary language, and the interactional styles with which they are familiar facilitates meeting their academic and social needs. Findings also suggest that school roles shape interactions, and that teachers and paraeducators focus on different aspects of children's development. The term 'paraeducator' is used to describe school personnel hired to assist students directly in the classroom. It is concluded that school contexts must afford diverse students opportunities to utilise the resources they bring to the classroom by validating those resources and creating learning contexts that tap into them. The idea is not new, but putting it into practice has proved difficult.

Moyles J, Suschitzky W (1997) *Jills of all trades: Classroom assistants in KS1 classes*. London: Association of Teachers and Lecturers.

The 'Jills of all trades?' study investigated the working roles and relationships of Key Stage 1 teachers and classroom assistants and their perceptions of each other's contributions to children's core curriculum learning. Available as a full report and also as a summary and recommendations booklet.

Roberts B, Dyson A (2002) Final Evaluation Report of the Learning Support Assistants Project. Newcastle upon Tyne, Special Needs Research Centre, School of Education, Communication and Language Skills, University of Newcastle upon Tyne: 21.

The Learning Support Assistants (LSA) project commenced in 1999 and was one of several initiatives of the Newcastle Education Achievement Zone (EAZ) targeted at raising standards in Teaching and Learning in Key Stages 1 and 2. The original intention of the project was to raise standards by increasing the number of pupils achieving Level 4 in Key Stage 2 SATS by focusing on and providing targeted LSA support to pupils who had achieved Level 2c at the end of Key

Stage 1. However, as a result of consultation with the DfES, this intention was later modified and widened to include pupils working towards Level 2c. The Preliminary Evaluation carried out by the University of Newcastle in April 2000 reported on progress and identified a number of issues that the project might usefully address if it were to fulfil its aims of 'testing out' initiatives and identifying effective and sustainable practices. These related to the focus, ongoing evaluation and sustainability of the project. The final evaluation report describes interim developments, further modifications and outcomes of the project in 2001-2002.

Rose R (2000) Using classroom support in a primary school: a single school case study. *British Journal of Special Education* **27**: 191-196.

A study involving 10 British teachers and six primary students with disabilities saw the provision of learning support assistants as a critical factor in enabling students to be included in classroom activities. The importance of teamwork and effective communication was seen as essential.

Vander Kolk CJ (1973) Paraprofessionals as psychotherapeutic agents with moderately disturbed children. *Psychology in the Schools* **10**(2): 238-242.

Abstract studied the effects of paraprofessionals used as therapeutic agents with moderately disturbed elementary-school children on their self-esteem, classroom behaviour, and therapy behaviour. Students were 44 children through 5th grade. The instruments were the Coopersmith Self-esteem Inventory and an experimentally designed teacher rating scale. Objective measures yielded no significant results but subjective reports of teacher aides suggested that students were helped.

Welch M, Richards G, Okada T, Richards J, Prescott S (1995) A consultation and paraprofessional pull-in system of service delivery: a report on student outcomes and teacher satisfaction. *Remedial and Special Education* **16**(1): 16-28.

Describes an evaluation study conducted to assess the impact of a hybrid approach to educational partnership known as the consultation and paraprofessional pull-in system (CAPPS) for serving at-risk students and those with mild academic disabilities. CAPPS is the synthesis of three predominant methods of shared responsibility in-service delivery: (1) resource/consulting teacher, (2) pull-in programming, and (3) utilisation of paraprofessionals for service delivery. After describing the CAPPS model, its implementation at an elementary school in a suburban area of the Rocky Mountain region using cross-grade grouping and outcome-based education as a basis for instructional programming and evaluation is noted. Results from a quantitative and qualitative evaluation project designed to assess teacher attitudes, student outcomes, and number of referrals for special education services are presented.

Werts MG, Zigmond N, Leeper DC (2001) Paraprofessional proximity and academic engagement: students with disabilities in primary aged classrooms. *Education and Training in Mental Retardation and Developmental Disabilities* **36**(4): 424-440.

This study examines the effects of proximity of a paraprofessional on the 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 two feet from the student and more than five feet from the student) on academic engagement (passive, active, waiting and non-engaged), and the nature and frequency of interactions between students with substantial disabilities and the paraprofessionals assigned to assist them. The major research question was: In the setting of a general educational classroom, during an academic lesson with age and functionally-appropriate materials does proximity of a paraprofessional have an impact on the academic engagement of a student with substantial disabilities?

Young B, Simpson RL, Myles BS, Kamps DM (1997) An examination of paraprofessional involvement in supporting inclusion students with autism. *Focus on Autism and Other Developmental Disabilities* **12**(1): 31-38.

This study was designed to monitor behaviour of three elementary-age students with autism in inclusionary settings relative to paraprofessional proximity and classroom activity. Results are presented for students' on-task behaviour, in-seat behaviour, self-stimulatory responses, and inappropriate vocalisations based on paraprofessional proximity and instructional activity. Data are also presented for interactions initiated by paraprofessionals, teachers and the students. Findings are discussed in relation to the use and training of paraprofessionals who are involved in inclusion programs for students with autism as they pertain to study results.

APPENDIX 4.3: Relevant excluded studies

Excluded studies related to Cluster A

Powers (2001) explores good practice in support from the perspective of staff involved in supporting deaf children. Interestingly, one observation concerns an issue not discussed within the cluster studies: the involvement of pupils in decisions about support arrangements. 'In one service the secondary pupils have a say in their own support programmes. They can negotiate the amount of support they receive... pupils are encouraged to take responsibility for their own learning needs from as early an age as possible' (p186-7).

Sage (2000) looks at the provision of learning support for an SEN pupil from the pupils' perspective, in the form of diary entries. The pupil who narrates this study criticises the stigmatising nature of traditional SENCO learning support and champions an alternative provision she has been receiving, known as Communication Opportunity Group Scheme (COGS). COGS is explained as being intuitive and working with pupils 'on their level' to determine exactly what learning support they need and how best to provide this support. This study suggests that paid adult support staff for pupils with special educational needs should have appropriate training to work with these pupils' in relation to their specific learning difficulties. 'If I have *special* needs surely I must have *special* trained people to help me?' (p67).

Best (1991) is a study written by an academic who undertook research into paid adult support, by becoming a support teacher for two terms in a comprehensive school. The study is derived from a journal he kept at that time. Although the author worked in a mainstream school and was not looking into the inclusion of pupils with SEN, his perspectives contribute to an understanding of the impact, or potential impact of paid adult support in a general sense. Best suggests that appropriate and coordinated working relationships between class teachers and support staff encourages pupils' participation and learning. 'The need for co-ordination of effort and agreement of priorities is important if we are to do our best by each child. Some children may miss out if both class teacher and support teacher believe the other is attending to them. On the other hand, it is possible for a child to have too much support! This can lead to a situation of dependency and an inability to use initiative' (p29).

Werts (1996) is a study based on the perspectives of teachers about the supports critical to the success of inclusion programmes. The three most critical means of support were seen as being '...training, support from a team of professionals and having help in the classroom' (p9).

Welding (1996) is a study based on the author's own experiences as a learning support teacher. Welding argues against those who question the usefulness of in-class learning support assistance. 'My own view is that in general, and indeed in my own school, there is much still to be worked on and explored before abandoning in-class support in favour of a different approach' (p117). Welding suggests that appropriately trained paid adult support staff can have a positive impact on pupils' learning and participation in general educational contexts.

Excluded studies related to Cluster B

Lee (2002) is a literature review for the Local Government Association about teaching assistants. One conclusion is that 'many of the studies referred to... have limited evidence on which to base conclusions about impact' (p26). The review cites Blatchford *et al.* (2001), and

also draws on Farrell, *et al.* (1999) to support the finding that effectiveness of paid adult support staff depends on the role taken, which is a function of training and management.

Ofsted (2002) highlights the role of paid adult support in relation to the National Literacy and Numeracy Strategies (NLNS). The report focuses mainly on the teaching assistant as a resource assisting the teacher in curriculum delivery. Impact on learning is discussed, and is judged to be largely adequate in reference to a notion of 'satisfactory learning support', but the framework for this judgement is not made explicit. The report claims that 'observable gains in a pupil's learning often result from the individual attention of the teaching assistant in a particular lesson' (p10) but the nature of these gains is not described.

Excluded studies related to Cluster C

Davis and Watson (2001) examined the perspectives of adults and disabled children about their everyday lives in 'special' and 'mainstream' schools. Although they did not specifically deal with paid adult support in this study, the authors stress the importance of building teaching practices and policy decisions concerned with disabled pupils' inclusion on the basis of actual life experiences and perspectives of these pupils. This has relevance for any consideration of the wider sociocultural issues that surround the impact of paid adult support in inclusive and general educational contexts. 'Finally, in keeping with a multi-level approach to educational innovation, it is our belief that full inclusion is only likely to be achieved when policy decisions are built on disabled children's own lived experiences as articulated directly to policy makers or as collected within empirical studies' (p685).

Haas (1997) a mother of a 'medically fragile' pupil examines the history of her daughter's education and makes a case for the use of appropriately trained speech-language paid adult support staff in educating disabled pupils. 'Given careful selection of paraprofessionals training, communication mode and approach, awareness to special situations, settings and the ability to be flexible, all schools would be able to provide appropriate speech-language services to the most discriminating consumer' (p113). Haas believes that people from the local community, when appropriately screened and trained, can provide needed support in classrooms for children with disabilities.

Singh and Dooley (2001) considered the views of Samoan paid adult support staff working in Australia about their work building relationships between disadvantaged local communities and the Australian secondary school system. The authors believe that these views are important and need to be read in light of paid adult support staff's specific sociocultural constructions and understandings. 'In conclusion, it is proposed that the paraprofessionals' accounts should not be read as simply true or untrue, but in terms of their specificity as input to institutional pedagogic work- input with the potential to bring cultural difference into being as it is acted on by teachers and other educational agents' (p335).

Excluded studies related to Cluster D

The dilemmas of support identified in the cluster studies are prominent in many other studies. Moran and Abbott (2002) identify problems encountered in the work of paid adult support staff in eleven schools. A 'major problem, mentioned by five of those interviewed, was when a teaching assistant removed the pupil's learning challenges by being overprotective. One interviewee put this very graphically: I know that when I go back to the classroom that the maths I've set for the children will all be correct. I think she feels that I'm keeping an eye on her as opposed to the children...' (p168). Bang and Lamb (1996) look at support for students with severe disabilities over a three-year project. Classroom observations show that the 'tutorial assistance of a paraprofessional' caused 'included' (disabled) students to be 'more engaged than non-disabled students' but 'less engaged in teacher-directed instruction... independent seatwork (included = 6% vs. non-disabled = 18%) and in small group learning...

these data indicate that the paraprofessional was both a help and a hindrance to the included secondary students' (p12). Lynas (1999) sets out to 'throw light on how teachers of the deaf and their support assistants attempt to resolve competing and possibly incompatible goals by investigating the nature of the support received by a sample of profoundly deaf pupils approaching the end of KS1' (p115) and broadly reflects the issues raised in this cluster, with the addition of specific reasons for the mode of support which related to the mode of communication with the child (oral / signing).

Several excluded studies reflect on the training and development of support staff themselves. Chapman and Ware (1999) examine the collaborative working arrangement in a mainstream school between health and educational personnel, linking with Vander Kolk in equipping paid adult support staff with particular skills through working in a structured way with a selected group of children. The staff were seen to gain 'new insights into ways of working with a variety of children which ensures skills are transferred to the classroom' (p108). Morgan *et al.* (1998) offers a strategy for developing collaboration between teacher and paid adult support staff based on joint training in effective teamwork in class, and most significantly 'observations for each other', which were initially regarded with "horror" (p116). The observation framework stressed ownership of the focus by the person to be observed, and the need to avoid evaluation, and eventually proved to be an important tool.