A systematic literature review on how training and professional development activities impact on teaching assistants' classroom practice (1988-2006)

Review conducted working with Working with Adults Review Group

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

SUMMARY	Explains the purpose of the review and the main messages from the research evidence
REPORT	**Describes the background and the findings of the review(s) but without full technical details of the methods used**
TECHNICAL REPORT	Includes the background, main findings, and full technical details of the review
DATABASES	Access to codings describing each research study included in the review

These can be downloaded or accessed at **http://eppi.ioe.ac.uk/reel/**

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List of abbreviations

AD/HD	Attention deficit / hyperactivity disorder
ALS	Additional literary support
BERA	British Educational Research Association
BGUC	Bishop Grosseteste University College
BTA	Bilingual teaching assistant
BTEC	Business Training and Education Council
CA	Classroom assistant
CACHE	Council for Awards in Children's Care and Education
CIREA	Centre for Innovation in Raising Educational Achievement
CLANSA	Certificate for Literacy and Numeracy Support Assistants
CPD	Continuing professional development
DfE	Department for Education
DfEE	Department for Education and Employment
DfES	Department for Education and Skills
EAL	English as an additional language
ESEA	Elementary and Secondary Education Act (later re-named NCLB below (USA)
ELS	Extra literacy support
FdA	Foundation degrees for teaching assistants
FTE	Fulltime equivalent
GNVQ	General national vocational qualification
GTC	General Teaching Council
HE	Higher education
HEI	Higher education institution
HLTA	Higher level teaching assistant
IEP	Individual education programme
ITE	Initial teacher education
LEA	Local education authority
LGNTO	Local Government National Training Organisation
LSA	Learning support assistant
NCFE	Previously knows as National Counties Further Education – now a national awarding body
NCLB	No Child Left Behind
NFER	National Foundation for Educational Research
NNEB	National Nursery Examining Board (merged with CACHE in 1994)
NQT	Newly qualified teacher
NVQ	National vocational qualification
PDCP	Professional Development Certificate Programme (Canberra, Australia)
PGCE	Post-graduate Certificate of Education
QA	Quality assurance
QCA	Qualifications and Curriculum Authority
QTS	Qualified teacher status
SCRE	Scottish Council for Research in Education
SEBDA	Social Emotional Behavioural Difficulties Association
SEN	Special educational needs
SNTAS	Special needs teacher assistants
SPL	Speech and language
SPLA	Speech and language paraprofessional
STA	Specialist teaching assistant
STAC	Specialist teacher assistant course
TA	Teaching assistant
TDA	Training and Development Agency for Schools
WoE	Weight of evidence

Abstract

What do we want to know?

The initial review question used to explore and map the research literature was:

> *What is the impact (both measured and perceived) of training on primary and secondary Teaching Assistants (TAs) and their ability to support pupils' learning and engagement?*

Following mapping, a specific question for in-depth review was identified:

> *What is the impact of award-bearing training on paid primary and secondary Teaching Assistants (TAs) in mainstream schools?*

Who wants to know and why?

Recent years have seen a large increase in the number of teaching assistants in UK classrooms, but their training has been unco-ordinated. Before this review, an overview of what was happening in terms of training was not accessible in one place. We synthesized outcomes in relation to what we could find about the training of TAs thus offering policy makers, teachers and teaching assistants an overview of provision.

What did we find?

The results of the present in-depth review point to one clear conclusion: TA training is patchy and its impact is little understood. Policy on training for TAs has not been co-ordinated despite significant policy developments in recent years. Programmes exist in the UK, USA and elsewhere but these have grown in relatively unco-ordinated ways despite initiatives such as the Specialist Teaching Assistant (STA) programme in the UK and No Child Left Behind (NCLB) criteria in the USA. Where available, training programmes (such as the STA programme in the UK) are reported to be effective in raising awareness, in developing TAs' confidence and subject knowledge, as well as their instructional skills. Exactly how such impacts are achieved is not clear. While training of TAs is needed we require stronger evidence from new studies as to what forms of training work well and why.

What are the implications?

The degree to which training opportunities exist for TAs needs to be reviewed by national bodies such as the DfES and TDA in the UK to determine how TAs are prepared for their expected roles. There is an absence of pre-service training, patchy participation in induction training and unco-ordinated provision in both the UK and USA. Growth in the use of TAs has implications for teacher education policy so teachers are trained to work with paraprofessionals effectively. Well-designed studies are few in number so more evidence is required on how training prepares TAs to support learning and engagement, to take up their communicational roles in managing relationships and acting as a bridge between teachers and pupils, or support recent legislative initiatives such as No Child Left Behind (USA)/Every Child Matters (UK, DfES 2003a). More research is needed on the nature and quality of training for TAs, how TAs are trained to carry out their pedagogic roles and what the impacts of such training are.

How did we get these results?

From electronic databases and full-text collections, we screened papers for relevance to the review question using the pre-established inclusion and exclusion criteria, 81 studies were included in the systematic map.

The focus of final question was narrowed to the impacts of award-bearing training programmes on TAs and their contributions to learning and engagement. Sixteen studies meeting in-depth inclusion criteria were included in the in-depth

review and were then synthesised, bringing together the studies which offered an answer to the review question.

Where to find further information

http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=2304

CHAPTER ONE
Background

1.1 Aims and rationale for current review

This review forms the third in a series of reviews focusing on adults other than teachers in the classroom. The first review (Cajkler et al., 2006) from this series led to two products: a broad systematic map of studies that investigated the contribution and role of support staff working in classrooms, and an in-depth review focusing on parents', teachers', pupils' and teaching assistants' perceptions of teaching assistant contributions to learning and engagement in mainstream primary classrooms in the UK and Europe (1988-2003). The second review (Cajkler et al., 2007) drew on and updated to 2005 the broad systematic map from the first review, but in the in-depth review focused on contributions made by teaching assistants in mainstream secondary schools.

The database and systematic map developed for the first and second reviews formed one of the principal resources for the third review. During the process of completing the reviews, an EndNote database of 10,500 studies dating from 1970 to 2005 was created by the review team.

This, the third and final review in the series, focused on the issue of the training of teaching assistants (TAs), a topical concern given the increasing importance of TAs in supporting pupils' access to the curriculum, and thus access to social and academic engagement. The review was particularly timely, given the recognition that recent reforms in England - for example, the DfES remodelling agenda in England (Department for Education and Skills, 2002a) - have given to the role of teaching assistants in schools.

Building on the previous two reviews, this review, undertaken by the Working with Adults Group, focuses on the training of TAs. Specifically, this review considers perceptions about the availability, quality and impact of training and development programmes, formal and informal, short and long-term, accredited and non-accredited, looking through the eyes of teachers, headteachers and principally teaching assistants. Where possible, the review identified the impact of training and development activities on TAs and on their ability to support pupils' learning and engagement.

We focused in particular on both studies of effectiveness and perceptions about the impacts of TAs training, especially those of TAs, but those of headteachers and teachers were also collected for comparison.

1.2 Definitional and conceptual issues

This review sought to explore studies that described and evaluated the results of training programmes for TAs. It began from the perspective that the training of support staff is critical to successful educational provision in the UK (and elsewhere), given the increasing attention and importance attached to support staff contributions to pupils' learning and engagement.

It is believed that support staff play a significant role in lightening teachers' workloads (Department for Education and Skills, 2002; Lee, 2002) and in supporting learning and increasing the level of pupil engagement (Cajkler et al., 2006). Our specific focus was on in-class support, generally referred to as teaching assistants (TAs) in the UK, paraeducators or paraprofessionals in the USA. According to Kerry (2005: 382), there is broad agreement that TAs, whatever they do in classrooms, must be trained, citing a range of studies in support (Coe and Dew-Hughes, 2002; Farrell et al. 1999; Foulkes, 2002; Johnston and Vaughan, 2002; Kerry, 2001; Kerry and Kerry, 2003; Lee and Mawson, 1998; Neill, 2002).

Definitional issues

For the purposes of the study, several definitions were adopted.

Support was limited to work that relates to in-class support. By this, we mean staff who contribute directly to pupils' learning and engagement in the classroom: for example, one-to-one teaching, monitoring and supporting group work set by the teacher, contributing to inclusion of particular pupils.

If we used the term **support staff**, unless otherwise specified, we referred to teaching assistants (TAs), sometimes called learning support assistants (LSAs), classroom assistants (CAs), specialist teaching assistants (STAs), learning mentors or learning supporters. The literature often refers to such staff as support staff, but these are not to be confused with other staff who might work in support roles in schools, such as technical support staff or bursars. Our focus was on in-class learning support. For the purposes of the systematic map, teaching assistants could be either paid or volunteers, but the final synthesis looked at the training of paid teaching assistants. In the course of our first and second reviews, we found in-class support referred to by a variety of titles, the most common including the words assistant, aide, paraeducator or paraprofessional, for example:

- teaching assistant

- teacher aide

- classroom assistant

- paraprofessional

- paraeducator

- instructional aide / assistant

- learning support assistant

- specialist teaching assistant

- special needs assistant

- support staff

- bilingual teaching assistant/paraprofessional

- bilingual aide

- welfare assistant

- auxiliary

- ancillary

- foreign language assistant

- paid aide

- special assistant

- integration assistant

- non-teaching assistant

This review investigated literature which discussed the training of staff with these titles.

Learning and engagement relate to involvement in the curriculum, in classroom activities and in activities designed to promote or secure access to the learning in the curriculum (i.e. individuals' active engagement in formal learning processes (Cooper et al., 2006)).

The above relates to the increasing pedagogic role, which is described as supporting learning, identified in recent studies (Blatchford et al., 2007; Russell et al., 2005). Blatchford et al. mention the pedagogic role of TAs at least nine times in their paper, while acknowledging that this is not fully understood. They report that TAs now have a predominantly direct role of supporting pupils in the classroom, engaged in pedagogical interactions with pupils; therefore, their role can be said to be predominantly pedagogical (p 14). They acknowledge the need for clearer conception of the role of TAs:

> *...it would be helpful to conceive more formally the pedagogical roles of teachers and TAs, perhaps by drawing on existing models of teaching and pedagogy. (Blatchford et al., 2007, p 21)*

To date, use of the term 'pedagogy' has not been defined in relation to TA contributions. Thus, the definition of pedagogic in relation to TAs is an issue for further development, but we take the use of the term as indicating greater involvement in learning support episodes: for example, group work, explanation of teacher instructions, advising pupils on how to complete tasks, listening to reading and advising, working through additional support materials, and working with an individual pupil or with groups. In the past, TAs may have been more frequently engaged in clerical support activities for teachers. However, their role has become one much more focused on learning support in direct interactions with single pupils or groups of pupils. This trend for TAs to be more involved in instruction or teaching is reflected in the use of terms such as 'instructional skills' in the USA, which are understood to mean the ability to offer one-to-one support and group support, offer explanations and guidance, engage in teaching episodes guided by teacher input and supervise pupils working on tasks.

Training for teaching assistants involves a range of opportunities, with both formal and/or informal outcomes. The Review Group sought out studies that could involve:

- short courses, both accredited and non-

accredited

- long courses, accredited and non-accredited

- in-service training

- pre-service training (where available)

- induction activities

- development activities (for example, in-school mentoring programmes)

- formal preparation for particular initiatives (for example, teaching the National Literacy or Numeracy Strategy programmes in the UK)

- special educational needs programmes

- training for higher level teaching assistants

Courses could have a multiple focus as in the specialist teaching assistant programmes in the UK or be single focus programmes, such as short in-service programmes on behaviour management, or the practice of nurture groups, counselling, and supporting pupils with AD/HD. The evolution of training in the UK is discussed in section 1.3.

1.3 Policy and practice background

This systematic review of TAs' training was carried out in the context of the implementation of the National Agreement on workforce reform in England (Department for Education and Skills, 2003b), which set out plans to remodel the school workforce by freeing teachers to focus on teaching and learning, and developing the roles of support staff in schools; as well as the need to prepare new teachers for working as part of a team in support of pupils' learning (Department for Education and Skills and Training and Development Agency, 2002). It was hoped that the results of this review would contribute to greater understanding of the nature and quality of training available to teaching assistants and perhaps higher level teaching assistants (HLTAs).

The DfES consultation paper on the role of school support staff (Department for Education and Skills, 2002a) revealed that there were already more than 100,000 TAs working in schools – a significant increase in recent years in both primary and secondary schools in the UK.

Further developments took place in the course of 2002-03. The National Agreement *Raising Standards and Tackling Workload: A National Agreement* (Department for Education and Skills, 2003b) set the parameters for further deployment of support staff to 'remodel' the teaching workforce and relieve teachers of routine tasks, aiming to:

- reduce (progressively) teacher workloads

- remodel the workforce with redistribution of routine tasks

- reform the roles of support staff

- establish higher level teaching assistants (HLTAs) in all schools

The latter have been introduced with a mandated training programme available to TAs who aspire to HLTA status. As a result, 50-day work-based training programmes, offered by regional providers, were put in place. In addition, fast-track assessment opportunities were available to existing TAs who could demonstrate the HLTA competences without going through the 50-day training. Since 2003, 11,000 TAs had successfully met the standards by mid-2006.

Since the early 1980s and the introduction of inclusive policies for pupils with special needs, TAs have become increasingly common in UK schools, both special and mainstream, as attested by a range of studies (Blatchford et al. 2002, 2004; Bowers, 1997; Clayton, 1993; Kerry, 2005; Lacey, 2001; Lee, 2002; McGarvey et al. 1996; MENCAP, 1999; Mortimore et al. 1994; Moyles and Suschitzky, 1997; Thomas, 1987, 1991; Wilson et al. 2002, 2003).

In January 2005, there were 147,400 fulltime equivalent (FTE) teaching assistants in schools in England, with 431,700 FTE teachers, giving a ratio of 1 TA for every 2.9 teachers. This represents a large rise from January 1997, when the total of TAs was 61,300 and the corresponding ratio was 1:6.5 (Department for Education and Skills, 2005: Tables 1 and 13).

The issue of training for TAs in the UK has taken centre stage in recent years since the onset of remodelling. In the USA, legislation associated with 'No Child left Behind' (similar to 'Every Child Matters' in the UK) means that training requirements for TAs in certain schools have been established. The No Child left Behind Act included paraprofessionals in its general requirements for professional development and training (Hill, 2002; Morgan et al., 2004; Schmidt and Greenough, 2002; Trautman, 2004; Wall et al. 2005) so that all paraeducators working in Title 1 schools in the USA (to improve the academic achievement of the disadvantaged) had to have completed one of the following:

- undertaken two years of post-secondary coursework (i.e. 48 to 60 hours)

- obtained at least an associate's degree

- demonstrated specific skills and knowledge through state or LEA assessments by June 2006

Such mandatory requirements are not in place in the UK, although expectations about training are

changing. Many LEAs have introduced requirements and grades for teaching assistants, with levels of pay sometimes related to level of training. However, there are concerns to address about the take-up of training (Russell et al., 2005). This may be due to its voluntary locally organised nature. Bach et al. (2006, p 13) research into the deployment of assistants in ten primary schools found that few of the schools had 'formal induction programmes and training. The emphasis was on individual TAs highlighting their training requirements informally and lobbying the head to support them, rather than the school identifying the training needs of their TAs in a systematic manner.'

Hitherto, training has been at best patchy and sporadic, although in England the situation is changing (Unison, 2004, p 20) with teaching assistants being offered more training than other support staff, such as administrative and technical personnel. In 2002, Unison reported a survey of training practices in 17 LEAs, in which training provision in one year varied between 20% of TAs and 100%, with periods of between 4 hours and 4-5 days (Unison, 2002, p 14).

Evolution of training for TAs

Some analysis of training has taken place in the UK since the mid-1990s (for example, Farrell et al., 1999) and also in the United States (e.g. Giangreco et al., 2001). In addition, a number of developments have taken place both in the roles and duties of teaching assistants and in the training opportunities available to them. Discussing TA training needs in the UK and approaches to addressing these before recent initiatives, Dew-Hughes et al. (1998) concluded:

The difficulty in the UK is the disparate nature of content and delivery. Adult learners have specific needs which relate to experience and training; UK educators need to identify with this issue if courses are to translate to classroom practice. The multiplicity of roles suggests a consortium model of training, where delivery is shared between school, LEA and other professional bodies. A more detailed analysis of training opportunities is long overdue. (Dew-Hughes et al., 1998, p 182)

This is echoed later in Blatchford et al. (2004, p 6) reporting that OFSTED (2002) extolled the benefits of training but noted that 'there is much that is not known about the impact of current practice'.

Sage and Wilkie (2004) describe a clear distinction among TAs prior to the 1990s. The distinction was between nursery nurses who held an NNEB or a BTEC diploma qualification (both two-year, vocational courses) and those who had little or no training related to educational practices. Her Majesty's Inspectors (HMI, 1992) highlighted the significant contribution made by non-teaching staff in schools, but lamented the lack of training for

many TAs in these roles. Following this, in the mid-1990s the specialist teacher assistant course (STAC) was established with funding from the Department for Education (DfE), in order to 'provide staff who could support teachers in delivering basic skills' (Kerry, 2001, p 5). In addition, such courses required partnership between higher education (HE) institutions and local education authorities (LEAs), reflecting the move towards work-based models as demonstrated in the later foundation degrees.

OFSTED (1999) in Department for Education and Skills (2000, p 7) explicitly highlighted the importance of good training: '...well-trained teaching assistants are a key resource and are used very effectively in many primary schools'. Indeed, a growing number of commentators – including Drake et al. (2004), and Sage and Wilkie (2004) - have argued that the increase in training and development opportunities represent a 'professionalisation' of TAs within the UK. Sage and Wilkie summarised the developments in training thus:

Now there are a range of courses from level 2 (GCSE equivalent) to degree level, short term and extended, in colleges and universities, or in school through NVQs. (Sage and Wilkie, 2004, p 19)

Key to this provision is the notion of choice, flexibility and a growing awareness of career progression for TAs. This latter point has been largely influenced by the Government's workforce reform agenda, usefully considered by Campbell (2005). She interviewed two headteachers who were seconded to work as advisers on the remodelling of the workforce in two different local education authorities. Their responses give rise to a range of questions about the development of the TA role and how a range of TA levels (TA1 to TA5) would emerge, with TAs operating in different ways and on different points of the scale. Nevertheless, there were positive assessments of the potential of the remodelling taking place within the two local authorities concerned, which headteachers believed would lead to a range of positive outcomes notably:

• release of time for teachers to focus on teaching

• changes in management training for senior staff (to take account of TAs in the workforce)

• availability of professional development

• production of salary grades for TAs on locally set scales

• greater specification of job roles, including revised job descriptions

• provision of a structure for developing the contributions of TAs

- opportunities to value support staff and recognise their contributions

- opportunities to consider the professional development of TAs (along five levels from TA1 to TA5)

Some problems were identified, notably bureaucratic tangles. One of the headteachers was concerned that the training for higher level teaching assistant (HLTA) training might not be adequate for some of the participants. Many TAs might be unable to take on HLTA training because they lacked GCSE A-C equivalent qualifications in Mathematics and/or English, although there were (and continue to be) local initiatives to address these needs. Campbell's chapter ends with the identification of issues and questions, including the following about training and professional development:

- On the job training can often be cheap training.

- There will be a new employment route into teaching for HLTAs.

- TAs need a good level of subject knowledge to teach subjects. (Campbell, 2005, pp 151-152)

Campbell reports that headteachers posed four questions. The first related to whether classroom teachers and trainee teachers would be trained to manage TAs. A second related to the nature of HLTA training after the pilots and the next asked how HLTAs might be able to progress to qualified teacher status (QTS). The final question posed was: 'Will the training be enough or good enough, or is it the Mum's Army with a certificate?' (Campbell, 2005, p 152).

Workforce remodelling remains a significant change initiative, involving a cultural shift in schools in order to release teaching staff for planning, preparation and assessment (PPA) time. Stephen Twigg (then Minister for Schools) underlined the pace of change, emphasising that: 'Schools are becoming more complex organisations and the work of support staff is becoming more varied and demanding' (Training and Development Agency 2005, p 3). The TDA stated in their plans for support staff training and development 2005-06 that 'Our aim is that all support staff have access to high quality training and development...' (TDA, 2005, p 4). Within the documentation, the emphasis was on vocational training, with clear progression through the National Qualifications Framework. Drake et al. (2004) argued that the most recent developments in TA training and the move towards a 'professionalisation of TAs' (Sage and Wilkie, 2004, p 8) mirrored parallel developments in teacher education and training. Of particular importance was the move towards 'school-based and reflective approaches to professional development, which emphasise reflection-in-

action and reflection-on-action' (Furlong et al., 2000 in Drake et al., 2004, p 134). It was within this framework that Foundation Degrees for TAs were developed as higher level qualifications suitable for academic and professional work-based learning. Furthermore, Edmond (2004) asserted that a scrutiny of key policy documents (Higher Education Funding Council for England 2000; Quality Agency Assurance Agency, 2002) unveils the discourse of 'employability'. The foundation degree was designed to enable graduates to meet employer demands and expectations for appropriate knowledge, skills and understanding in the workplace.

At the turn of the century, there were a number of developments. The DfES took the initiative to provide induction training for new TAs (Department for Education and Skills, 2000) in both primary and secondary schools, although this did not take account of the large numbers who had taken on the role without formal induction training. Local education authorities deliver these induction programmes. In 2001, occupational competence standards were first identified by the Local Government National Training Organisation (LGNTO). General National Vocational Qualification (GNVQ) levels were also established.

Opportunities for TAs in the UK include the following:

- The specialist teaching assistant (STA) programmes introduced in pilot form by the DfE in 1994; the STA programme was developed by the DfE with the aim of enabling TAs to 'contribute more markedly to the teaching and learning of basic skills in support of qualified teachers' (Department for Education, 1994, cited in Swann and Loxley, 1998, p 156).

- A four-day induction programme for which the DfES produced materials in 2000 (Department for Education and Skills, 2000) to be used by LEAs

- initiative-related training programmes, such as those designed to teach supplementary programmes for National Strategies (for example, Additional Literacy Support, Department for Education and Employment 1999)

- Foundation degrees for teaching assistants (FdA), piloted in 2001 and now available in a large number of HEIs

- Farrell et al. (1999, p 33) listed the following programmes undertaken by LSAs:

o City and Guilds Introductory Certificate in Learning Support

o City and Guilds Advanced Certificate in Learning Support

o CLANSA Certificate for Literacy and Numeracy

Assistants

o BTEC Professional Development Award

o NCFE Special Needs Assistants Certificate 1

o NCFE Initial Training for Classroom Assistants Certificate 2

o Specialist Teacher Assistant (STA)

o Specialist Teacher Award (CACHE)

o Specialist courses (accredited)

o General support courses (accredited)

o Specialist teacher assistant (non-accredited)

o General support courses (non-accredited)

In addition, the range of HEI programmes and qualifications has developed since 1999 and a variety of provision is now available (see Appendix 1.2 for programmes offered by HEIs in the Midlands in 2005-06). Finally, there are the training programmes for HLTAs.

In summary, by 2005, there was a range of training programmes for TAs in the UK, offered by further education (FE) colleges, local education authorities (LEAs), higher education institutions (HEIs), usually universities, independent providers and voluntary organisations, such as the Nurture Group Network and the Social Emotional Behavioural Difficulties Association (SEBDA). Similar provision was also available in other countries notably the USA, but there were concerns about the take-up and scope of training (Gerber et al., 2001; Giangreco, 1997; Riggs and Mueller, 2001). Despite the developments, concerns remain about the training of paraprofessional staff, for example, Moshoyannis et al. (1999, p 4) report that paraprofessionals are increasingly employed to provide direct instruction to children and support services to children and parents, but 'the vast majority of paraprofessionals responding to the surveys received no pre-service training to prepare them for their assigned positions nor were they provided with formal in-service training when they moved into a different title or were transferred into another program. During focus group discussions, paraprofessionals reported feeling "thrown into" their jobs highly unprepared.; and, although they do learn many skills on the job, they still stressed the need for pre-service training, on-going in-service training, and other professional development activities' (Moshoyannis et al. (1999, p 5).

1.4 Research background: evaluations of teaching assistant training

Few studies have been conducted in the UK in recent years. These include Russell et al. (2005)

within the Blatchford et al. (2004) DfES research project; Farrell et al. (1999), which looked in part at training of LSAs; and Swann and Loxley (1998), which evaluated perceptions about the effects of an Open University specialist teaching assistant (STA) course, offered in a particular locality. Nevertheless, there was some evidence of growing interest in this important development. Howes et al. (2003, p 44) found evidence that TAs received only limited training in the UK, noting that this was also the case in the USA, citing Giangreco et al. (1997, pp 5-6) who described the following:

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.

In the USA, Gerber et al. (2001) warn that TAs have very limited preparation for their roles. In 2003, French advised that 'paraeducators continue to be hired for the job with no preparation' (2003, p 9). Many teaching assistants are still likely to depend on the training given to them on the job by their classroom teachers. Giangreco et al. (2002, p 60) reported that, while there was some attendance at workshops and other forms of training, their study (215 staff in four schools) revealed that being mentored by a teacher (i.e. on the job training) was the principal source of training received. French (2001) reviewed on the job training experiences of 321 teachers responsible for paraprofessionals. Teachers often addressed teaching techniques and behaviour management with their support staff, the most frequently used approach being 'telling' or providing feedback' (French, 2001, p 48). Learning from the teacher has been reported in a range of UK studies (for example, Hughes and Westgate, 1997). There is some justification to the view that actual training programmes seem to occur as some kind of afterthought (Pickett, 1996, cited in Hadadian and Yssel, 1998).

Nevertheless, in the USA, informative reviews about training of support staff have been undertaken, notably by Morgan et al. (1995) and more recently by French (2003). A glance at the titles in French's review (see Appendix 1.3) suggests that TAs and teachers have been consulted about the effects of TA training: for example, Long et al. (1994), Passaro et al. (1991) and Riggs and Mueller (2001). Giangreco (2002) and his colleagues have been involved in identifying appropriate programmes and developing materials to use in the training of paraprofessionals, who support pupils with disabilities in US general education classrooms. In conclusion, there is a range of experience and research in the USA to which we could look for comparison as we mapped studies and narrowed the focus of the review. This review drew on the research of French (2003) to inform its

searches of databases and its screening of studies (see Appendix 7 for a selective list of studies identified by French, 2003) and the search sought to identify a similar body of literature in Europe.

Some research has been conducted in the UK into ways in which teaching assistants are trained: for example, Farrell et al. (1999), Dew-Hughes et al. (1998), Russell et al. (2005), Swann and Loxley (1998), and Terrell et al. (2004). Smith et al. (1999) investigated career ladders for teaching assistants including training opportunities but did not report perceptions of the impact of training.

Farrell et al. (1999), who investigated practice in both primary and secondary schools, concluded that more and better training for TAs was required. They found that City and Guilds awards were among the most commonly available to TAs and that there were relatively few barriers to participation in training. Where LEAs had been involved in the organisation of programmes, evaluations were positive as they were helped to link content to their daily work (p 39). Where this was not the case, City and Guilds programmes were reported to be somewhat remote from the daily work in which LSAs were engaged. Farrell et al's conclusion was that LSAs valued training opportunities (p 37) but their respondents 'had mixed views about the quality of training they received' (p 47). There have also been evaluations of training: for example, Savage and Carless (2005) using pre- and post-test methods and observations of classroom routines in which TAs were involved.

Russell et al. (2005) surveyed the views of 340 Year 4-6 TAs and found some alarming trends. They conclude rather gloomily (p 175) that changes to the TA role had been unsystematic and had not connected with training or indeed with their contractual conditions. Large numbers of TAs remained untrained (p 188). Where training had been attended, TAs reported positive effects (p 182) but many TAs remain untrained for what Russell et al. term 'their pedagogic role of supporting pupils' learning' (p. 188) as at least 25% did not attend training. Perhaps this study reflects the concern expressed by Dew-Hughes et al. (1998) mentioned above, and supports the case for a review of the field at this time.

In short, increasingly it appeared from studies that TA training was patchy, that take-up was limited but the issue was becoming a priority for further development at least on the part of researchers (Kerry, 2005; Russell et al., 2005).

There was, however, some evidence of positive impact where training existed (Hutchings, 1997; Russell et al., 2005; Swann and Loxley, 1998; Terrell et al., 2004). The Review Group concluded that this area needed further exploration and a systematic literature review was justified at this important time in the development of teaching assistants' roles and responsibilities in the UK. The

review would focus in particular on the impact that the training has on TAs and those they work with, but also touch on other important issues, such as the availability of training, its take-up and costs in time and investment.

1.5 Purpose and rationale for the review

The intended audience for this review was varied and included policy planners, the Training and Development Agency for Schools (TDA), trainers of TAs in local authorities and in universities, school managers and TAs themselves. This is a particularly appropriate time for such a review in the UK given recent policy initiatives (notably DfES, 2003 a,b) and the increasing reliance on paraprofessional support staff in our schools to support pupils. How are TAs prepared for their principal classroom role, which is to contribute to pupils' learning and engagement in the curriculum?

1.6 Authors and funders

The review was funded by the TDA, managed by the EPPI-Centre Review Team and supported in kind by the University of Leicester, Bishop Grosseteste University College, Lincoln, and Newman College, Birmingham. The review was conducted at the School of Education, University of Leicester, with the principal participants in the Review Group being Wasyl Cajkler, Dr. Geoff Tennant and Dr Yonca Tiknaz. Dr Rosie Sage, University of Leicester, Claire Taylor of Bishop Grosseteste University College, Lincoln, and Professor Stan Tucker of Newman College, Birmingham were members of the Review Group.

1.7 Review questions

The overall question for this review was as follows:

> *What is the impact (both measured and perceived) of training on primary and secondary teaching assistants (TAs) and their ability to support pupils' learning and engagement?*

For the in-depth analysis of studies (reported in Chapter 4), the question was refined to the following question which was used to interrogate studies:

> *What is the impact of award-bearing training on paid primary and secondary teaching assistants (TAs) in mainstream schools?*

This was further subdivided to enable analysis of the selected studies identifying two sets of impacts:

1. What does the training do for the TA in relation to

- Job satisfaction?

- Motivation, confidence and self-esteem of TAs?

- Communication skills?

- Academic skills?

- Reflection?

- Verbal skills?

- Teamwork?

- Subject knowledge (content knowledge of the subject, for example, the work of a children's author, knowledge about genres, and curriculum subject knowledge (such as knowledge about language as used in the Literacy Strategy), knowledge about educational practice)?

2. How does the training help TAs to support pupils' learning and engagement?

- Pupils' academic progress?

- Instructional skills (pedagogic skills e.g. how to explain things, how to set up and manage learning tasks, classroom management skills)?

- Understanding students better?

- TAs' use of formative assessment (assessment for learning)?

- Inclusion of pupils?

- TA management of behaviour?

- Pupils' interaction?

CHAPTER TWO
Methods used in the Review

2.1 Type of review

This was a full systematic review, leading to a map of relevant studies and a synthesis. The review went through the following stages:

- Establishment of the research question by the Review Group in consultation with the Advisory Group and development of the protocol

- Searching of databases and key journals

- Importing of citations with titles and abstracts into an EndNote database

- Interrogation of database for double entries

- Screening of titles and abstracts: application of exclusion criteria

- Sending for full texts of studies

- Screening of full text studies: application of exclusion criteria

- Drawing the map of studies included in the systematic map

- Keywording of mapped studies: analysing and coding the studies using the EPPI-Reviewer Keywording tool (EPPI-Centre, 2003a) to characterise studies in a general view

- Refinement of the review in-depth question

- Application of in-depth exclusion criteria

- Synthesis: in-depth analysis

Scope of question

The review began with a broadly focused question about the impact of TA training. This was narrowed, following the drawing of the map to a review of the impact of award-bearing training programmes on paid primary/secondary school TAs and the work they did in support of children's learning and engagement.

Search

The search made use of previous searches conducted by the Review Group (Cajkler et al., 2006 and 2007), which explains the large number of double entries in our database. A new search of a range of databases (for example, ERIC, PsycInfo and OCLC) was conducted to identify studies that included a focus on the training of teaching assistants (TAs). The search strategy was broadly focused on the training and development of TAs. See Appendix 2.2. for the full search strategy and Figure 3.1 in Chapter 3 which indicates where the studies in the review were found.

Screening limits

Screening was limited to studies published from 1988 to 2006, and to studies written in English. The screening was guided by exclusion criteria agreed by the Review Group in consultation with the Advisory Group.

Map (descriptive/analytic)

Analysis of full papers led to the creation of a map which appeared to offer some evidence in answer to our original general question: What is the impact of training on primary and secondary teaching assistants (TAs)? The mapped studies were further explored using the EPPI-Centre Keywording tool, with keywords agreed by the Review Group so that they could be used to determine key features of the training events evaluated in the mapped studies: type, duration, general outcomes/impacts, methods used to collect data and details about the type of training offered (e.g. school-based, in-service, induction or pre-service). These results were then tabulated to provide the data for the

description of characteristics in Chapter 3. The mapped studies were then subjected to further scrutiny using in-depth exclusion criteria. At this stage, the study was limited to paid staff and to studies of programmes that stated that an award of some kind was made.

Synthesis (simple/complex)

Full data extraction of studies included in the in-depth review looked at the nature of the study, its quality, focus and relevance in relation to the Review Group's question: that is, a full analytic synthesis to answer the revised review question: What is the impact of award-bearing training on paid primary and secondary Teaching Assistants (TAs)?

2.2 User involvement

2.2.1 Approach and rationale

The review was managed by the Review Group (in liaison with the Advisory Group). The Review Group was responsible for:

- co-ordinating the tasks and stages associated with the review, from initial screening to final data extraction

- inviting participation from teacher educators, trainers of teaching assistants and other users (for example, LEA advisers)

- agreeing the allocation of responsibilities for different parts of the review

- preparing and editing the final report

The Review Group included members of staff from the University of Leicester, Bishop Grosseteste University College (BGUC), Lincoln, and Newman College, Birmingham. All three institutions are involved in initial and continuing teacher education programmes, the principal immediate beneficiaries of the review being teacher-trainers and their trainees. Review Group members regularly consulted trainers and other professionals about the review. Users were invited to join the Advisory Group to include a range of colleagues who work with teaching assistants as trainers or advisers, including a TDA policy officer who was responsible for monitoring the re-modelling of the teaching force. The Advisory Group included three special needs teachers (from primary and secondary schools), one principal of a college of higher education, teacher educators in three institutions (pre-service and in-service), LEA advisers with particular interest in working with teaching assistants and the former Director of the Social Educational Behaviour and Development Association (SEBDA). The remaining members were teacher or teaching assistant educators. In addition, a teaching assistant STA course group of 12 from Leicester LA was consulted with the support of their trainer.

2.2.2 User involvement in designing the review

The review was informed by consultation with an established network of university staff who are involved in training teaching assistants and teachers. The Advisory Group included partners at BGUC, Lincoln (who offer the foundation degree for teaching assistants) and Newman College, Birmingham, as well as with the range of other practitioners in the Advisory Group. In addition, LA staff, both advisers and trainers of TAs, were consulted formally and informally to review the progress of the review and both interim and final findings.

They advised the following:

1. The question should seek to evaluate the impact of training events on TAs and their work with pupils.

2. The principal focus should be on paid staff.

In addition, users gave Review Group members the benefit of their practical experience in schools and from working with TAs. For example, they advised the following:

1. The position of TAs in local schools was changing quite rapidly but progress in their training and deployment varied widely from school to school.

2. Some TAs were being given increasingly professional roles (for example, as de facto special needs co-ordinators in some schools), but with limited training, other than the induction offered in the workplace.

2.2.3 User involvement in the process of conducting the review

Advisory Group members were unable to engage in screening and in-depth analysis of studies, but they received interim results at each stage and advised on the direction of the review.

All members of the Review Group played an active role in undertaking the review. Screening of studies was moderated by four review teams of two, drawn from the membership of the Review and Advisory Group, informed by regular communications with other members of the Advisory Group who did not have easy access to databases. In this way, user perspectives were incorporated into the screening of studies. The research associate conducted the searches and organised the screenings (see Appendix 3) up to the mapping stage, but all stages were moderated by the Review Group. For the keywording and data extraction of studies, review teams of two people were drawn from the Review Group as Advisory Group members were not available for this particular process.

2.2.4 User involvement in interpreting the review results

Twelve TAs, who were asked to respond the findings in June 2006, offered perspectives on current developments in training and in particular on how teachers might view their roles, experience and training. This focus group of TAs engaged in the STA course at the University of Leicester was presented with a summary of the findings from the map and in-depth review. This group also gave views about the kind of training that teachers would benefit from in relation to working with others. They argued that their role was significant and that new teachers in particular should take account of the knowledge and understanding that TAs possess about the pupils and classroom life.

2.2.5 User involvement in communication/dissemination of the review results

Users have not yet been involved in the dissemination of findings, but the final report will be circulated to all users who will in turn distribute copies to members of their organisations (for example, officers and trainers of Social Emotional Behavioural Difficulties Association, SEBDA).

The findings were due to be presented at the European Educational Research Conference in September 2006 and at a conference of the Social Emotional Behavioural Difficulties Association in Malta, in September 2007. Attendees are engaged in the training of teaching assistants so these users will benefit from the findings of the review.

2.2.6 Plans for further interpretation and application

Further opportunities for dissemination will be explored with local LAs and other training providers. If resources permit, the findings will be further analysed with those of the first two reviews conducted by this Review Group, with a view to publishing a book that summarises the contributions of teaching assistants and the ways in which they are trained. Exploratory discussions are taking place with Jessica Kingsley Publishers Ltd. In addition, a chapter will appear in a book edited by Janet Moyles that draws on findings from this review.

2.3 Identifying and selecting studies

2.3.1 Inclusion and exclusion criteria

The focus was confined to two principal ways of evaluating the impact of training on TAs' contributions:

1. Studies that reported perceptions about the relationship of training activities to support for learning and engagement, encompassing interaction within the mainstream curriculum (for example, the TAs' beliefs about their ability (following training) to understand and cope with the difficult behaviour in the classroom or their ability to keep pupils on task).

2. Studies that measured the impact of a training programme or activities on TAs (for example, their knowledge of educational practice (through pre- and post-tests), or on their skills (for example, the ways in which TAs support pupils and / or teachers in order to bring about learning and engagement, such as those that measured changes in TA behaviours through observation of their interactions with pupils pre and post training. These measures might include for example, pre and post-training tests or in-class observations of participants' application of the training.

The review did not include programmes of training targeted at teachers (for example, in training them how to manage teaching assistants), although this is an important and often neglected issue.

Inclusion criteria (systematic map)

1. SCOPE

To be included, a study had to be:

a. about teaching assistants;

b. about the training of teaching assistants; and

c. focused on teaching assistants working with the 4-19 age range in primary and secondary schools, and their equivalents in other countries.

2. TIME and PLACE

To be included, the study had to be both:

a. reported and published in English; and

b. published in the period 1988-2006 (i.e. from the decade when the National Curriculum was introduced in England and Wales).

3. STUDY TYPE

To be included, a study had to:

a. be based on primary empirical research (e.g. evaluation studies of training; surveys of training and development activities; case studies, reporting of perceptions through questionnaires, interviews and focus group meetings); and

b. contain descriptions of the impacts of training and development activities on teaching assistants, and/or on pupils' learning and engagement

Exclusion criteria (systematic map)

X1 NOT about teaching assistants (as defined in the protocol)

X2 NOT about training of teaching assistants for activities related to learning and engagement (including SEN/EAL/Numeracy/Literacy/Subject support work and NOT about training of teaching assistants to become teachers)

X3 NOT about teaching assistants working in Foundation Stage to KS5 (4-19)

X4 NOT about the impact of training or perceptions of TAs' training on TAs' classroom practice and contributions to pupils' learning and engagement

X5 NOT primary empirical research studies

X6 NOT about mainstream schools (e.g. set in special schools)

X7 NOT published in the period 1988-2006

X8 NOT published in English

X9 Theses/dissertations

XGAZ Newspaper articles

XNA Not available (only applied after the cut-off date: 1 April 2006)

Other codes:

SfS: Send for further screening (for consideration for inclusion or for checking because the information in the title and abstract was inadequate)

The following studies were excluded on exclusion criterion 5:

a. editorials, book reviews, position papers

b. policy documents (e.g. DfES consultation paper, 2002a), syllabuses, frameworks

c. resources

d. handbooks (e.g. Fox, 1998)

e. methodology papers

f. bibliographies and literature reviews

g. non-empirical papers

Studies were restricted to the period 1988 to 2006. 1988 was chosen because this was a milestone year in the development of education in the UK, with the legislation introducing the National Curriculum. Since then, the number of teaching assistants in UK schools has increased significantly.

Bibliographies of literature reviews were handsearched for possible relevant papers.

In-depth inclusion and exclusion criteria

The TAs' training, reported in the study, had to:

EX1: be award-bearing training (accredited in some way, leading to an award)

EX2: be for paid teaching assistants

EX3: be for TAs in mainstream primary or secondary schools only

The studies (articles/reports/conference papers) had to:

EX4: include a report of an evaluation of the TAs' training programme with data or outcomes reported (the latter could be perceptions of participants about impact on them)

EX5: be a primary study, not a study reporting on previously conducted studies

2.3.2 Identification of potential studies: search strategy

The period 1970 to 2005 had been exhaustively searched for two reviews about the contributions of TAs in primary (Cajkler et al. 2006) and secondary schools (Cajkler et al., 2007) and 10,500 studies had already been screened. These studies were stored in an EndNote database at the University of Leicester and it was again interrogated for studies about training. In addition, further searches of bibliographic and research databases were made to seek out studies that provided evidence to answer the review question.

We conducted the searching of the databases and journals between January 2006 and April of 2006. Full reports were obtained for the period 1988-2006 for those reports that appeared to meet the criteria or where we had insufficient information from the title and abstract to be sure that a report should be included or excluded in the review.

Key search terms drawing on those used in the first review (see Appendix 5) were used to identify potential studies for inclusion in the map. Recent reports and articles (notably, Blatchford et al., 2002; Farrell et al., 1999; Hancock et al., 2001; Wilson et al., 2002) and the EPPI-Centre review conducted by Howes et al. (2003) were sources of guidance for our first two reviews and the debt to these should again be acknowledged for the third review. A set of search terms was generated to take account of variations in the use of names to describe support staff (teaching assistants, classroom assistants, classroom aides, teacher aides, learning support staff, learning support assistants, special needs support staff, ancillaries, paraprofessionals). These were reviewed and re-applied to bring the third

review up to the current date (with cut-off at the end of April 2006).

Reports and articles had already been identified for the first two reviews from the following bibliographic databases:

• British Education Index (BEI)

• Educational Research Information Center (ERIC)

• PsycInfo

• ISI Web of Knowledge

• Online Computer Library Center (OCLC)

• Australian Education Index (AEI)

• International Bibliography of the Social Sciences (IBSS)

• Article First

• Education On-line

These were brought up to April 2006 and supplemented by handsearching key journals recommended by members of the Review and Advisory Groups: British Education Research Journal; Support for Learning; British Journal of Educational Research, Disability and Society; Scandinavian Journal of Educational Research; and European Education Research Journal.

Reference lists of key authors/papers were searched and citation searches were made of key authors / papers: namely, Blatchford et al. (2004), Farrell et al. (1999), Gerber et al. (2001) and Russell et al. (2005).

References on key websites were explored, namely British Educational Research Association (BERA), Department for Education and Skills (DfES), National Foundation for Educational Research (NFER) and Scottish Council for Research in Education (SCRE).

Searches of these sources was limited so as to identify reports conducted in a specific time period in order to build on the searches conducted for the earlier reviews (January 1988-end of April 2006). 1988 marks with the introduction of the National Curriculum in England.

The search was supported and guided by the library at the University of Leicester.

An EndNote database system was set up to keep track of, and code, reports found during the review. Titles and abstracts were imported and entered manually into the first of these databases.

2.3.3 Screening studies: applying inclusion and exclusion criteria

Inclusion and exclusion criteria were applied successively to (i) titles and abstracts of new papers identified, and (ii) full reports requested. Full reports obtained were entered into a second database. The inclusion and exclusion criteria were re-applied to the full reports and those that did not meet the initial screening criteria were excluded.

2.3.4 Characterising included studies

Studies identified in the updated searches as meeting the inclusion criteria were entered in a map of 81 studies. These were keyworded, using the EPPI-Centre Core Keywording Strategy for Education Research Version 0.9.7 (2003a). Additional keywords, which were specific to the educational context of the review, were identified to take account of the focus of training and to characterise the studies appearing in the map. (Appendix 6 lists the keywords, both generic and specific.)

The review specific mapping of studies focused specifically on the following:

• type of training offered to teaching assistants

• duration of training offered

• whether training was accredited, in-service, entry level or research project related

• focus of the training for teaching assistants (e.g. instructional skills or behaviour management)

• training components and details (i.e. short / long course, activities involved, follow-up offered)

• measures of the impact of training teaching assistants (e.g. on levels of confidence or behaviours in the classroom)

• stakeholder perceptions about the impact of training: in particular, the perceptions of teaching assistants (The review sought to identify studies that had stakeholders' views as a significant part of their research.)

The results of the keywording of studies were added to the EPPI-Centre database, REEL, for others to access via the website. This keywording exercise formed the basis for Chapter 3 of this report.

2.3.5 Identifying and describing studies: quality assurance process

Pairs of Review Group members, working first independently and then comparing their decisions in order to arrive at a consensus, conducted the application of the inclusion and exclusion criteria and the keywording. Members of the EPPI-Centre applied criteria and keyword a sample of studies for quality-assurance purposes.

Quality assurance (QA) processes were carried out at two stages of the review: (i) screening of titles, abstracts and full text documents; and (ii) keywording of studies (QA procedures for data extractions as discussed in section 2.3.5).

Screening of reports: quality assurance

In order to establish clear criteria for inclusion, two reviewers subjected 250 citations to initial screening to evaluate the reliability and validity of the criteria, and to quality assure the screening process. EPPI-Centre staff also screened a sample of 50 citations to check for consistency and accuracy in the Review Group's screenings. Following confirmation of consistency, 200 citations were issued to each of six reviewers for initial trial screening at a meeting of the Review Group. Results were discussed at the meeting of the Review Group so that difficulties were identified.

When screening full papers that were acquired for whole text screening (581 reports), a 10% sample of the full texts was subjected to further moderation by members of the Review Group. EPPI-Centre staff sampled 10 papers to advise on levels of consistency.

Keywording of studies

Six reviewers applied review-specific 'pilot' keywords independently to 20 studies. Then, they compared their decisions and came to a consensus about the usefulness of the keywords. In addition, two reviewers conducted a similar exercise with a member of the EPPI-Centre staff. This helped to refine the review-specific keywords. Following agreement on the use of keywords, keywording was undertaken by all members of the Review Group. Keywordings were checked for consistency by one lead reviewer.

2.4 In-depth review

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

For in-depth review, after consulting with the Advisory Group, the focus was narrowed to yield data about the impact of award-bearing training activities on support staff: for example, on the development of their communication skills or on contributions they made to the support of learning and engagement in schools. Several members of the Advisory Group are involved in award-bearing programmes for teaching assistants, which explains in part the motivation for narrowing the focus in this way. Once the systematic map had been drawn, a review took place to determine the way forward along the lines described below.

2.4.2 Detailed description of studies in the in-depth review

Studies identified as meeting the inclusion criteria were analysed in depth, using the EPPI-Centre's

detailed data-extraction guidelines (EPPI-Centre, 2002b), with additional review specific questions. Details of each study were recorded: the focus of the study, the nature of the sample (e.g. teaching assistants, special needs assistants, etc.), and methods described in the study. Particular attention was given to the methods in which perceptions were elicited and what the principal findings of each study were. Checks were made to identify the following:

- context of the study (school setting, age range, location, number of participants)

- types of training or development activities involved (e.g. accredited, non-accredited, researcher-initiated, public authority initiated)

- measures, if any, used to evaluate or describe the impact of TA training activities (e.g. pre-test and post-tests; post-course evaluations; observations)

- ways in which the measures or perceptions were collected (e.g. questionnaires, interviews, observations, tests)

- results of the training and/or perceptions about the outcomes of the training of teaching assistants

- weighting of the evidence in the studies supporting the conclusions

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

Three components were identified to help in making explicit the process of apportioning different weights to the findings and conclusions of different studies. The EPPI-Centre weights of evidence are based on the following:

a) Soundness of studies (internal methodological coherence), based upon the study only (WoE A)

b) Appropriateness of the research design and analysis used for answering the review question presented above (WoE B)

c) Relevance of the study topic focus (from the sample, measures, scenario, or other indicator of the focus of the study) to the review question (WoE C)

An overall weight taking into account (A), (B) and (C) was calculated (WoE D).

Judgment about the overall weight was a reflection of the study's value in relation to the question that this Review Group posed (in section 1.7) and was not intended as a comment on the overall quality of a study in its own terms.

The first review (Cajkler et al., 2006) was delayed by a weakness in our application of the Weights of Evidence system, which was found to be

inadequately nuanced to allow reviewers to make clearly differentiated judgments. As a result, the Review Group modified the system of weights to reflect the nuances of the judgments that we needed to make about the studies.

This modification personalised the weights of evidence system in order to make it easier to apply consistently across the studies that we were likely to encounter.

As a result, a more refined system was developed, which involved the following:

1. subdividing the basic three categories into low, low-medium, medium-low, medium, medium-high, high-medium, high, which allowed us to make finer distinctions between studies (which were often quite similar in approach and scope)

2. stipulating that D could never be higher than A, as quality of research is crucial in all studies, irrespective of the scope of information they might present about teaching assistants' training

3. using a numerical system that would take us from A, B and C to D without having to re-calculate every time. (Table 2.1, with criteria for each level, was issued to reviewers.)

4. introducing a structure to the way in which weights of evidence A, B and C were judged; most simply, this was the numerical scale and its word equivalent as in Table 2.1.

Table 2.1 Calculation of weight of evidence

Level	A	B	C	D
High	7	7	7	20-21*
High-medium	6	6	6	17-19*
Medium-high	5	5	5	14-16*
Medium	4	4	4	11-13*
Medium-low	3	3	3	8-10*
Low-medium	2	2	2	5-7*
Low	1	1	1	3-4*

*except where A is in a lower band

For a study to score 7, it would need to be:

a. internally well structured with clear explanation of research focus, methods and findings (WoE A)

b. unequivocally appropriate in its research design and analysis (WoE B)

c. relevant in all details to the study topic focus with relevant sample and context (i.e. mainstream schools, relevant methods of data collection and analysis) (WoE C).

For a study to be graded medium (i.e. level 4):

a. internally reasonably well structured with partial explanation of research focus, methods and findings (WoE A), possibly with some detail omitted for example about the sample and about the data analysis methods

b. appropriate at least in part in its research design and analysis (WoE B)

c. relevant in some (50%) details to the study topic focus (relevant sample and context - i.e. mainstream schools), relevant methods of data collection and analysis (WoE C), but possibly including other topic foci (e.g. deployment of teaching assistants).

Middle weight of evidence studies would have some weaknesses in the research focus (e.g. only partially on the training of TAs), appropriateness of research design, or relevance of the study topic focus (e.g. with only partial clarity about the way data was collected and analysed).

Studies of low quality (receiving grades 1 or 2) would not meet any of the above criteria in an unqualified way, with the structure of the study being loose (WoE A) with an unclear research design (WoE B) – for example, unclear about the number of subjects or with vague explanation of the instrument used to gather data. but focused at least a little on perceptions about training (WoE C).

2.4.4 Synthesis of evidence

2.4.4.1 Overall approach to and process of synthesis

In the review-specific keywording exercise, outcomes from the studies in the systematic map had been coded under 21 categories (see Appendix 2.4).

However, when the Review Group considered the studies in the in-depth analysis to identify categories in the data about the impact of training on TAs and on pupils' learning and engagement, the keywords proved to be less helpful. As a result, the data was combed for outcomes and then labelled independently by two reviewers. This led to agreement, during a review meeting, on a fresh set of codings that reduced the 21 outcomes into 15 outcomes, removing overlaps and grouping certain activities together (see section 2.4.4.3).

THE IN-DEPTH QUESTION AND IN-DEPTH REVIEW

The question required reviewers to pay particular attention to impacts reported in the studies. While all sections of the data analysis were completed in full (e.g. data collection and analysis methods), reviewers were instructed to use the results sections of the EPPI-Reviewer (sections K2 and K6) to extract all reports about impact (perceptions of the outcomes of the training on TAs and their work in classrooms) in the studies (i.e. perceptions or measures of the outcomes of the training on TAs

and their work in classrooms). They were required to do this exhaustively, including full quotations of impact or perceptions of TAs' training on classroom practice and contributions to pupils' learning and engagement. This demanded a painstaking analysis of each article to identify the impacts reported and then their transcription in EPPI-Reviewer so that they could be further analysed.

2.4.4.2 Selection of outcome data for synthesis

The team of reviewers working independently coded sections K2 and K6 of the data extractions by hand to identify and highlight impacts of the training of TAs, labelling each in turn, as described below.

2.4.4.3 Process used to combine/synthesise data

Resulting texts were then analysed and coded by two reviewers working independently. The data extracted was analysed by sorting the results of the different studies into themes by a constant comparison method, involving pairs of reviewers analysing the data for common perceptions about the value and impact of training on the contributions of teaching assistants. Codings were compared by pairs of reviewers and grouped in 15 recurring themes:

1. Job satisfaction

2. Motivation, confidence and self-esteem of TAs

3. Communication skills

4. Academic skills

5. Reflection

6. Verbal skills

7. Teamwork

8. Subject knowledge

9. Pupils' academic progress

10. Instructional skills

11. Understanding students better

12. TAs use of formative assessment

13. Inclusion of pupils

14. TA management of behaviour

15. Pupils' interaction

These 15 outcomes allowed us to deal with the in-depth review under broader categories than the 21 used for the keywording exercise. The 15 themes emerging from the first sweep of the in-depth studies were then compared with the 21 keywords for impact to make sure that coverage would be

achieved. The 15 themes differed in the following ways from the 21 keywords:

a. Avoidance of hovering/intrusion (avoiding a block to inclusion) came under the heading of 'Inclusion of Pupils' (TA ways to include pupils in the keywords).

b. Any focus on pay rises was removed as it was keyworded in only one of the 81 studies (Pye Tait, 2006) and then only to indicate that no pay rise had followed the successful completion of HLTA training.

c. The subject knowledge category included acquisition of greater awareness (e.g. 'awareness of disabilities' – that is, knowing more about diagnosed conditions, such as dyslexia, autism, AD/HD, or physical); 'cultural awareness' (i.e. knowing more about diversity and its impact on educational needs) and TAs' understanding of how to do their job (e.g. awareness of new techniques).

d. Confirmation of own practice was only keyworded twice (Pearson, Chambers and Hall 2003; Pye Tait, 2006) and this related to instructional skills for which we had an in-depth category.

e. Similarly, TAs' responsibility for supporting learning in class had not been keyworded at all, so did not occur as an in-depth category.

f. A category for understanding the teacher's perspective was introduced (here, for example, to discuss awareness of the TA and the teacher relationship).

Following analysis of the data extractions using the 15 refined categories to isolate evidence of impact, two questions were used to interrogate the data leading to an analysis of groups of studies to present what impact they had on TAs and their practice. These questions allowed for inclusion of the 15 impact categories in the following way:

1. What does the training do for the TA?

• Job satisfaction

• Motivation, confidence and self-esteem of TAs

• Communication skills

• Academic skills

• Reflection

• Verbal skills

• Teamwork

• Subject knowledge

2. How does training help TAs to support pupils'

learning and engagement?

- Pupils' academic progress

- Instructional skills

- Understanding students better

- TAs' use of formative assessment

- Inclusion of pupils

- TA management of behaviour

- Pupils' interaction

The studies were then grouped by type of programmes (for example, degree programmes) to facilitate the analysis, as follows:

1. UK studies of STA programmes

2. UK studies of BA/FdA programmes

3. One study of HLTA training

4. US programmes (a variety of awards)

5. Other: an Australian programme and one college of teachers programme in the UK

2.4.4.4 Criteria for identifying important review results

Drawing on the experience of the first and second reviews, in the third synthesis, the Review Group:

- synthesised the qualitative and quantitative data thematically

- used a highlighting scheme to assist in the thematic analysis

The 15 summaries were combed for description of impacts, answering the following questions:

1. What does the training do for the TA (categories: 1-8: job satisfaction; motivation, confidence and self-esteem; communication skills; academic skills; reflection; verbal skills; teamwork; subject knowledge)?

2. How does training help TAs to support pupils' learning and engagement (categories 9-15: pupils' academic progress; instructional skills; understanding students better; TAs' use of formative assessment; inclusion of pupils; TA management of behaviour; pupils' interaction)?

2.5 Deriving conclusions and implications

Members of the Review Group were asked to review the findings and respond by identifying possible implications for policy, practice and research. Interim findings had been discussed with members of the Advisory but final data extractions were not discussed with the Advisory Group other than by email. All colleagues in both groups were offered the opportunity to respond to a draft of chapters 4 and 5 of this report, and feedback was incorporated.

2.6 In-depth review: quality-assurance process

Data extraction and assessment of the weight of evidence brought by the study to address the review question were conducted by pairs of Review Group members working first independently and then comparing their decisions and coming to a consensus. Members of the EPPI-Centre contributed to the process of data extraction from the final set of studies for quality-assurance purposes. Detailed guidelines about the approach to be followed were issued, with particular focus on the extraction of results from the studies about teaching assistants' contributions. All the data extractions were done by two researchers working independently and then agreeing results to arrive at a composite report for use in the final report. A sample was also data extracted by a member of the EPPI-Centre, according to standard EPPI-Centre procedures. In addition to this, the results sections of all the data extractions were examined by one of the two lead researchers and the research associate in order to ensure that the results of the studies had been recorded exhaustively and consistently (in sections K2 and K6), using direct quotations wherever possible to facilitate the identification and coding of perceptions about impact of training.

CHAPTER THREE
Identifying and describing studies: results

This chapter describes the systematic map of 81 studies, illustrating the sources of the studies, their focus, scope and contexts, type of training programme described and evaluated, and the principal purposes and outcomes of the training described in the studies. The 81 studies cover the period 1988-2006 and the training of teaching assistants in all phases of mainstream education (nursery, primary and secondary schools). The 81 studies were keyworded and analysed in general terms. From the systematic map, the 16 in-depth studies about the impact of award-bearing training were derived (to be discussed in Chapter 4).

This chapter offers a general review of the field which begins with details of how the search was carried out and how the field was narrowed to 81 studies (section 3.1 to 3.21.). Then, the characteristics of these studies are described from sections 3.2 onwards.

The analysis is divided into two sets of keywords:

1. Section 3.2.1 uses generic EPPI-Centre keywords that enable us to report where studies took place, their focus (curriculum or other), the population focus, the educational setting of the study, and the type of study.

2. Section 3.2.2 describes characteristics, using review-specific keywording, notably focusing on features of the training described or evaluated in the 81 studies: for example, context of training attended, the status/level of the training event, who the training providers were, the type of training involved, its length and timing, activities involved, numbers of participating teaching assistants and the outcomes resulting from the training (reported or measured).

3.1 Studies included from searching and screening

A bibliographical search was undertaken to build the database for this review.

The sources for the final set of reports included in the main database are listed in Table 3.1.

Table 3.1 Sources of the report (N=6,593*)

Identification of report	Number
Handsearch	53
ERIC	1,872
OCLC	1,136
BEI	279
AEI	548
Article First	69
Psycinfo	1,453
IBSS	6
ISI	1,161
Dissertation abstracts international	13
Unknown	3
Total	6,593

* Codes are mutually exclusive

Following exhaustive screening of the 6,593 titles and abstracts (3,064 duplicate citations excluded), 627 papers were identified as being potentially relevant for inclusion in the map. These required full text screening. Of the 627 papers requested

20

Figure 3.1 Filtering of papers from searching to map to synthesis
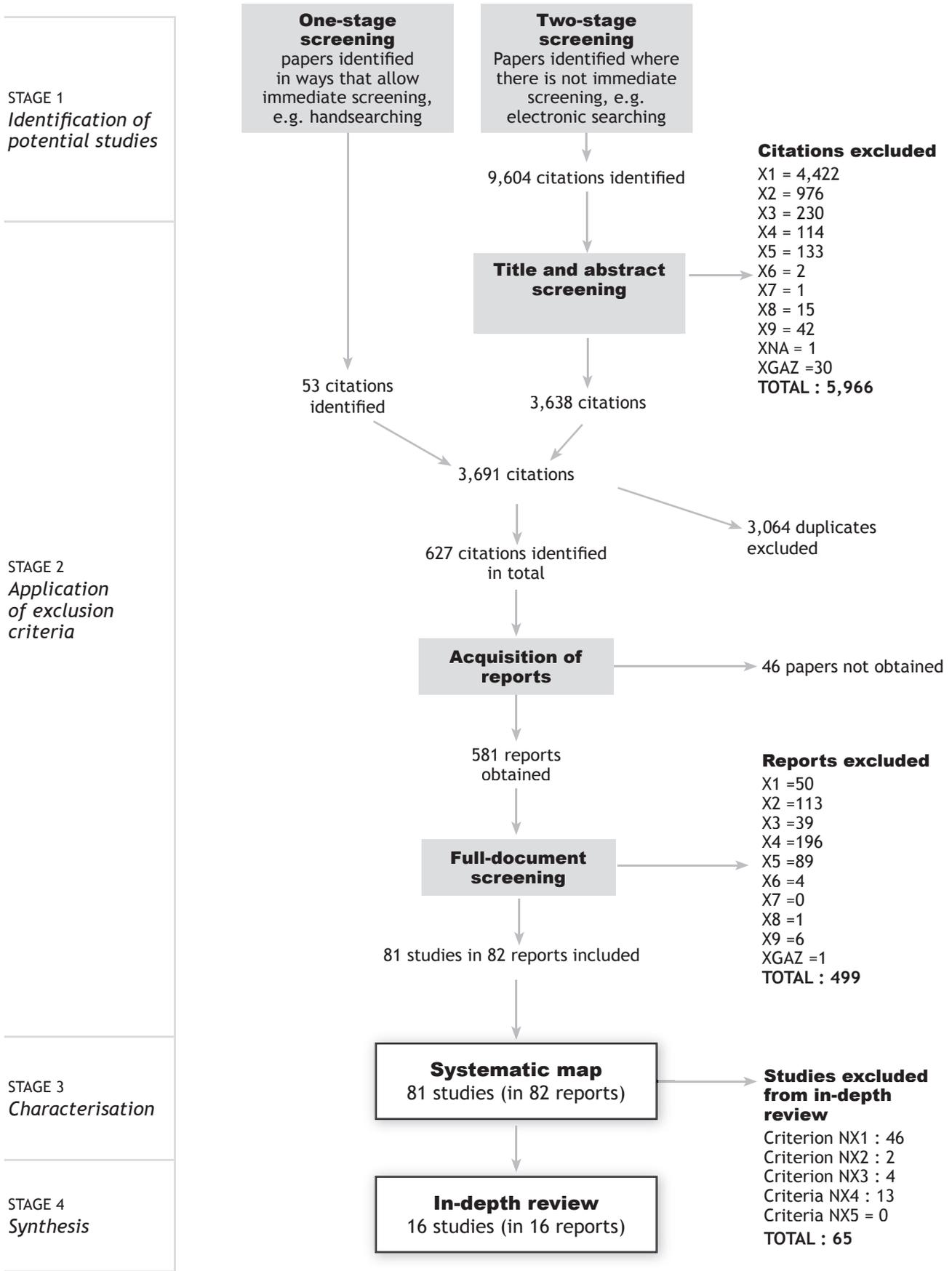
or sought, a total of 581 were received and then the full papers were screened, using inclusion / exclusion criteria discussed in section 2.3.1 and also presented in Appendix 2.1. This screening process was moderated and was carried out by pairs of reviewers, reducing the sample to a total of 81 studies (reported in 82 papers), which were included in the systematic map.

The identification of the papers

Table 3.2 summarises the use of databases to identify articles for the review, with ERIC the most lucrative electronic source. 79 papers came from electronic databases and two from handsearching.

Table 3.2 Database or other origin of the studies in the mapping study (N=81*)

Identification of report	Number
Handsearch	2
ERIC	33
BEI/BREI	18
Psycinfo	10
AEI	5
ISI Web of Science	3
ArticleFirst	2
OCLC	8

* Codes are mutually exclusive

These 81 studies were keyworded, using the EPPI-Centre core keywording strategy (2002a). This was followed by application of in-depth criteria, applied to studies in the systematic map to identify the studies for inclusion in the in-depth review (see Appendix 2.1).

This process resulted in 16 studies being identified for inclusion in the in-depth review. Figure (Figure 3.1) summarises the stages of the systematic review.

3.2 Characteristics of the 81 included studies (systematic map, 1988-2006)

Following application of the exclusion criteria to 571 full documents, the 81 studies remaining were characterised, using the generic EPPI-Centre and review-specific keywords (see Appendix 2.4) to create a systematic map of the research literature. The keywords that were applied during this analysis constituted the basis for the data presented in this chapter. The map contained studies relating to all phases of education and a range of training types (e.g. short course, long course, accredited or award-bearing, non award-bearing). The following sections report the results of the two keywording exercises: the generic EPPI-Centre keywording, common to all EPPI-Centre reviews, and the review-specific keywording agreed by the Review Group.

3.2.1 Generic EPPI-Centre keywords

The generic EPPI-Centre keywords (see section 2.2.4) allow reviewers to identify the following features in the studies:

- status: whether published or not and whether the study is linked to others

- country of the study

- language in which it is written

- topic focus (e.g. teaching and learning, equal opportunities including inclusion or as in our case, training of TAs)

- curriculum focus, if applicable (most had a general focus on training, so this is not discussed in detail below as few studies trained TAs for just one specific curriculum area)

- population focus (e.g. usually on teaching assistants, but also sometimes on others such as teachers, headteachers or parents)

- educational setting of the study

- study type (e.g. trial, evaluation, description)

Country of study

The map only included studies from three countries, perhaps those where the use of TAs has become significant in recent decades. There were studies from other countries in our database, for example over 160 from Canada, but these were judged not to address our question. Studies not written in English (we found 16) were also excluded.

Table 3.3 Countries in which studies were conducted (N=81*)

UK	27
USA	47
Australia	7

* Codes are mutually exclusive

Topic focus/foci of the study

All the studies focused (at least in part) on the training of teaching assistants, although there was occasional mention of other topics as exemplified in Table 3.4. For some studies, the focus of training was one of several foci: for example, Farrell et al. (1999) looked at the deployment and management of learning support assistants (LSAs) as well as training.

Table 3.4 Topic focus of mapped study (N=81*)

Topic of the study	Number
Classroom management	1
Curriculum	2
Equal opportunities	5
Organisation and management	13
Policy	1
Teaching and learning	19
Training of teaching assistants	81

* Codes are not mutually exclusive

Curriculum focus

The vast majority of studies had a non-specific focus with regard to curriculum, covering the training of TAs in general, or not for a particular curriculum purpose. However, a small number of studies was devoted to specific issues such as the teaching of literacy. For the Review Group, the key focus was on school curriculum areas but the training activity or activities explored in the studies. So, a review-specific keyword was developed, the result of which is reported in a later section of this chapter in Table 3.13.

Population focus

The population focus of the study was on teaching assistants but other stakeholders, most notably teachers, featured as principal participants in 30% of the studies.

Table 3.5 Population focus (N=81*)

The population focus of the study	Number
Learners	6
Senior management	2
Teaching staff	26
Non-teaching staff	81
Parents	3
Other population focus	7

* Codes are not mutually exclusive

Study type

The majority of studies were evaluations or claimed to be evaluations. 21 researcher manipulated evaluations (total 27 in Table 3.6) involved training offered by the researcher then evaluated: for example, Cremin et al. (2003, 2005) on approaches to improving learning through teamwork; Elliott et al. (2000) on volunteers trained to support reading activities; and Savage et al. (2003) on LSAs trained to teach reading using phonics. All such studies involved very short periods of training (see tables 3.24-3.26 for a full summary of researcher initiated training events).

Table 3.6 Type(s) of study (N=81*)

Type(s) of study	Number
Description	17
Exploration of relationships	1
Evaluation: naturally occurring	36
Evaluation: researcher manipulated	27

* Codes are mutually exclusive

3.2.2 Review-specific keywords

This section presents the findings for the review-specific keywording, the purpose of which was to discover the following characteristics in the 81 studies:

1. Context of training attended

2. For which TAs the training is offered (already reported above)

3. Status / level of the training event

4. Award-bearing or not

5. Type of training award

6. Training providers

7. Focus of the training

8. Type of training involved

9. Length of the training in terms of contact time

10. Time offered for study

11. Applied activity during training

12. Who initiated the training

13. Numbers of programmes described and evaluated

14. Numbers of staff participating (if known)

15. Country of study

16. Study focus: how the training is evaluated or explored

17. Stakeholder perceptions reported, if any

18. Outcomes resulting from the training (reported or measured)

Context of the study

This was often difficult to determine, as the location of the training was not always made clear, especially where programmes were district wide. Nevertheless, it was possible to identify that primary school staff were the most frequently mentioned recipients of

training, although not necessarily in their schools. Venues for training were also explored in the review specific keywords with some programmes being university or local authority based. Table 3.7 provides details of the education setting after analysis of the studies.

Table 3.7 The educational setting(s) of the study (N=81*, categories not mutually exclusive)

The educational setting(s) of the study	Number
Higher education institution	13
Home	1
Local education authority	12
Nursery school	13
Post-compulsory education institution	1
Primary school	46
Residential school	2
Secondary school	26
Special needs school	1
Workplace	2
Other educational setting	6

Recipients of training

When we later analysed the people being offered the training, we found a slightly different picture, but the balance between primary and secondary staff was similar. In 54 studies, the training was delivered to primary school assistants and 29 studies featured secondary colleagues.

Table 3.8 For which TAs the training is offered (N = 81, categories not mutually exclusive)

For which TAs the training is offered (N=81*, categories not mutually exclusive)	Number
Primary school TAs	54
Secondary school TAs	29
Nursery/kindergarten	14
Special school staff only	1
Other (Please specify.)	8
Unclear	12

The status/level of the training event

The vast majority of studies investigated in-service programmes of different kinds, some offered by schools, and others by bodies, such as local authorities or universities. In addition, 28 studies involved research projects of various kinds with an evaluation of training offered to TAs. This training was usually offered by the researchers themselves and was of short duration so that TAs could carry out an initiative or experiment with a new approach. Only two programmes claimed to

offer anything resembling pre-service training and even these were somewhat unclear about the status of the training. Giangreco et al. (2002) discussed a paraeducator entry level certificate, but it was not clear that this was for paraeducators only about to enter their profession. Feldman (1989) also mentioned the paraeducator entry level, and his study discussed the induction of low income parents into the role of paraprofessionals in the USA. In the UK and Australia, we could not locate pre-service programmes although since 2000, there have been induction programmes in the UK (following appointment). The training enterprise with TAs is largely an in-service provision.

Table 3.9 Type of training (N = 81, categories not mutually exclusive)

The status/level of the training event	Number
Pre-service (entry level/pre-entry) training	2
Induction training (e.g. DfES/LEA orientation)	4
In-service / CPD training	70
Initiative related in-service (e.g. NLS)	2
Researcher initiative in-service (research project)	28
Unclear	3

Award-bearing status

In many cases, reports were unclear about awards following their programmes. We could only identify 30 studies which appeared to report on award-bearing programmes and even then there could be uncertainty. The researcher initiated programmes were non-award-bearing, with the exception of Sack and McLean (1997, p 154) which seemed to offer opportunities for accredited outcomes (community college certification). As a result, this was retained for in-depth study.

Table 3.10 Award-bearing programmes (N = 81, categories not mutually exclusive)

Award-bearing status	Number
No award (not accredited)	30
Accredited (award-bearing)	30
Certificate of attendance only	3
Unclear	24

The difficulty of determining whether papers were dealing with award-bearing training led to studies being classified as unclear and in some cases to double-coding: for example, Lee and Mawson (1998) reported on award-bearing and certificate of attendance programmes; New York City Board

of Education (1990) mentioned college credits but the exact nature of the award was not clear so this uncertainty led reviewers to code it award-bearing, but also unclear. Russell et al. (2005) mentioned awards, but again the lack of clarity led to double coding, as did uncertainty with Steckelberg and Vasa (1998) which seemed to indicate a certificate of attendance but was unclear about the nature of the award (if any), the latter only clarified by communication with one of the authors. Such uncertainty led to difficulty for reviewers when applying the in-depth exclusion criteria following keywording (see Figure 3.1) when only 46 studies (instead of an expected 51, in line with the 30 award-bearing studies in Table 3.10) were excluded on the grounds of being non-award-bearing. Six studies about which there was uncertainty were therefore assigned an 'unclear' coding in the absence of greater confidence (Ashbaker and Morgan, 1999; Fantuzzo et al. 1996; Haney and Cavallaro, 1996; Hoover, 1999; Lawler-Prince and Slate, 1995; Smith et al. 2004).

It appeared that training programmes were related to awards in many studies, but the quality of explanation was such that they were often unclear about what they offered. As a result, it was also difficult for the Review Group to identify the exact nature of awards available particularly in US studies, but Table 3.11 summarises those we were able to identify.

Table 3.11 Type of training award (N = 81, codes are not mutually exclusive)

Type of training award	Number
STA Course	6
HLTA training	2
Degree / Foundation (associate) degree	3
Bachelor's degree (BA/Bsc)	2
City and Guilds	2
Cache	2
DfES Induction	3
NVQ	1
LEA award / Local district award	1
Paraeducator entry level certificate	2
State wide programme (USA)	2
ESEA award / equivalent (USA)	1
First aid certificate	2
Other	11
No apparent award	32
Unclear	24

Who offered the training?

A range of providers is involved in the delivery of training to teaching assistants and paraeducators, the largest being universities, followed by research project teams (who were often working

in universities). Until recently, there appeared to be no identifiable national patterns. However, the Training and Development Agency for Schools (TDA) has established regional providers in the nine administrative regions of England for delivery of higher level teaching assistant (HLTA) training, provision evaluated in Foulkes (2005) and Pye Tait (2006). In addition, the STA programmes (Specialist Teaching Assistant certificate: 60 credit points at higher education level one in the UK) were offered by a range of universities and evaluated in a number of studies (Hutchings, 1997; Edwards and Clemson, 1997; Ryall and Goddard, 2003; Swann and Loxley, 1998). Government funding for this programme has been withdrawn. Apart from this, it was difficult to identify patterns of provision though foundation / associate degrees and BA programmes have been developed by universities in the USA and the UK. Many programmes were offered by provider partnerships: for example, a university and local district working together, or schools working together with local authorities or universities (for example, Broadbent and Burgess (2003) in Australia or Blalock et al. (1992) in Albuquerque, USA).

Table 3.12 Training providers (N = 81, categories not mutually exclusive)

Who offered the training?	Number
HEI/ University	36
Research project team	28
LEA / Local District (in USA/ Australia)	19
FE College	2
School (TAs)	10
Independent provider	3
Professional association	2
Other (Please specify.)	12
Unclear	9

Focus of training

There was a significant level of commonality in the focus of training despite it being generally unco-ordinated at national and regional level. Just over half the programmes discussed in the map had a focus on the instructional skills of TAs, but many were focused either on inclusion or on support for pupils with special educational needs. Literacy seems to attract more training than the teaching of numeracy; behaviour management and the development of teamwork (here called 'effective teaming') also receive a lot of attention.

Table 3.13 Focus of the training (N = 81, categories not mutually exclusive)

Focus of the training	Number
Learning and teaching skills, basic instruction skills	46
Inclusive practice (securing inclusion in mainstream), such as facilitating peer interaction	21
Literacy programme	20
SEN and effective learning (not necessarily inclusion), Academic support for diagnosed condition (e.g. dyslexia, autism, AD/HD)	18
Behaviour management	18
Effective teaming	17
General classroom support	15
Assessment (how to assess pupils)	10
Numeracy	8
TA communication skills	7
Action research for TAs / reflective practice	6
Support for hearing impaired	3
Support for visually impaired	2
English as additional language / bilingual education	2
Cultural diversity	2
Young child	1
Other (Please specify.)	32
Uncleat	1

The 'other' category was used by reviewers in the case of 32 studies, reflecting the great diversity of programme foci that our keywords had not predicted: for example, ICT skills (Blunden, 1993; Terrell et al., 2004; Wilson et al., 2002); legal or ethical issues (Bugaj, 2002; Coufal et al., 1991; Steckelberg and Vasa, 1998); room or classroom management (Cremin et al., 2005; Johnson, 1993a, b; Steckelberg and Vasa, 1998); embedded instruction (McDonnell et al., 2002; Schepis et al. 2001); drug abuse awareness (New York City Board of Education, 1991; Romano, 1999); first aid (Coufal et al., 1991; Smith et al. 2004); enhancing communication of pupils with disabilities (Sack and McLean 1997; Sage, 2005); and use of story (Blalock et al., 1992; Smith, 2001).

Type of training involved

By far the most common form of training was the formal course. This might be combined with on the job training or classroom based training, but traditional forms seemed to dominate. Only seven programmes included online or distance learning components (Bugaj, 2002; Forbush and Morgan, 2004; Pye Tait, 2006; Steckelberg and Vasa, 1998; Swann and Loxley, 1998; Terrell et al., 2004; Wilkins, 2004).

Table 3.14 Type of training (N = 81, codes not mutually exclusive)

Type of training involved	Number
Formal course attended	44
On the job training/classroom based training	33
Training by mentor in school	5
Distance learning programme	3
Online learning programme	4
Self-managed / directed learning activity	3
School training days	7
Training by researcher	28
Other (Please specify.)	9
Unclear	6

Time given to training programmes

There was often a lack of clarity about the length of the training programme on offer. Where this was stipulated, most programmes were of short duration, with 19 of them less than one day in duration. Only 16 studies of long courses (one year to two years part-time) found their way into the map. These were mainly degree, foundation/associate degree or Specialist Teaching Assistant Certificate (STAC) courses.

Table 3.15 Length of training in terms of contact time (N = 81, categories not mutually exclusive)

Length of training	Number
1 day or less	19
2-5 days FTE	13
Short course: one twilight session a week per term	9
Short course: 1 FTE per week for 5-10 weeks	2
Long course: more than 5-10 weeks to one year (part-time)	14
Long course: 2 years (part-time)	2
Online	1
Other (Please specify.)	10
Unclear	23

Time offered for study

This proved difficult to determine in many cases (39 studies) but at least 13 studies involved some use of own time, 8 being entirely in the TAs' own time.

Table 3.16 Time used for training (N = 81, codes not mutually exclusive)

Time offered for study	Number
Course in own time	8
Paid release from school	15
Unpaid release from school	2
School training days	3
Mixed, some paid some unpaid	5
Other (Please specify.)	18
Unclear	39

The following programmes seemed to have a significant own time element: Arthur et al. (1998), Manuel-Dupont and Yoakum (1996), New York City Board of Education (1990, 1991, 1992), and Swann and Loxley (1998); Terrell et al. (2004).

Weekends were mentioned by Broadbent and Burgess (2003). Others, such as Granger and Grek (2005) and Romano (1999), indicated that TAs were paid their standard rates of pay when in training; Feldman (1989) mentions training stipends. Wilkins (2004) suggests paid release from school occurred for some TAs. Other programmes may also require significant investment of own time but reviewers were unable to be sure.

The following seemed to offer a mixed economy, partly own time and partly school time training: Farrell et al. (1999), Giangreco et al. (2003a), Smith et al. (2004), Steckelberg and Vasa (1998), and Wilson et al. (2002). Lee and Mawson (1998) also identified mixed levels of support.

Again, the data available was very limited and often unclear. What was clear was that provision of time for TA training seemed to be somewhat arbitrary and dependent on local conditions. In some studies, more contact time within the same programme was reported as being available for teachers than for teaching assistants: for example, New York City Board of Education (1990) and Elliott et al. (1993).

Where training takes place

Although many university-based programmes are available, most training involved work-based or own site attendance, 47 studies in total. At least six studies also involved communication in online communities and so could be done partly at home (Swann and Loxley, 1998; Pye Tait, 2006; Steckelberg and Vasa, 1998; Terrell, Revill and Down, 2004; Wilkins, 2004; Forbush and Morgan, 2004). Others may well have offered similar opportunities.

Table 3.17 Context of training attended (N = 81, categories not mutually exclusive)

Comtext of training attended	Number
Own work site (e.g. school)	47
HEI / University	19
LEA / district training day-centre	15
Online community	6
Other (Please specify.)	9
Unclear	16

Very few programmes just involved attendance. A large number included workplace activities to complement traditional input. Perhaps only seven explicitly mentioned the support of a mentor but 20 studies involved observations of practice (presumably some of these may have been conducted by a mentor).

Table 3.18 Applied activity during training (N = 81, categories not mutually exclusive)

Applied activity during training	Number
Attendance only (no further activity)	6
Workplace activity involved	33
Directed tasks obligatory	19
Observations of practice included	20
Assessment of knowledge / skill required	10
Mentor support in school	7
Other (Please specify.)	13
Unclear	21

Some programmes involved follow-up activities, such as the observations mentioned above and review meetings to monitor progress, but many programmes included no information about this. As a result, the impression was of rather patchy follow-up activity.

Table 3.19 Follow-up activity/post-training programme (N = 81, categories not mutually exclusive)

Follow-up activity/post-training programme	Number
No follow-up	8
Follow-up meetings to review progress / impact (e.g. after three months)	12
Observations to monitor implementation (e.g. probes by trainers or mentor)	20
Additional coaching	2
Request for feedback on impact (by trainer)	12
Monitoring by mentor	3

Online community follow-up	3
Follow-up tasks / portfolio	7
Other (Please specify.)	18
Unclear	29

Most studies reviewed one training event or programme but a small number included reviews of two or more programmes. An important group of studies looked at training provision in general and TAs' responses to their training experiences: for example, in the UK, Farrell et al. (1999), Russell et al. (2005), Wilson et al. (2002), and Lee and Mawson (1998). We found relatively few such studies but they provide informative data on training experiences in general and perceptions of their impact. (Table 3.27 provides a summary of generally focused studies.)

Table 3.20 Number of programmes described and evaluated

Number of programmes described and evaluated	Number
One	61
Two	6
Three	2
Multitude e.g. current national training provision	8
Unclear	6

The keywordings above are not mutually exclusive because some studies were unclear about the number but covered a multitude of training initiatives (e.g. Riggs and Mueller, 2001; Russell et al. 2005).

Table 3.21 Numbers of staff participating (codes mutually exclusive)

Numbers of staff participating	Number (N=81)
TAs/paraeducator numbers known	62
Not known/unclear	17
Not relevant e.g. general survey of training programmes, with numbers not indicated	2

Sixty-two studies were relatively clear about the number participating in their research (ranging from one to thousands) and a count suggests that approximately 10,500 TA voices are represented (an average of 170 across the 62 studies). That almost one fifth of studies were unclear about the numbers participating is, however, a concern given the importance of TAs to our education systems. The quality of reporting specific research details is not high in many studies.

Study-specific details

Describing the methods of evaluation of the impact of training was also a challenge for the studies. 67 included perceptions of participants in the training or colleagues associated with the participants, while 33 included some measure of impact (e.g. observations, pre-test or post-test, measures of pupil progress). The majority of studies relied on perceptions only. Where perceptions were elicited, they were usually those of support staff, as illustrated in Table 3.22 below.

Table 3.22 Which stakeholder perceptions are reported? (N = 81, codes not mutually exclusive)

Which stakeholder perceptions are reported?	Number of studies
Support staff	54
Teachers	32
Headteachers / Senior management	6
Trainers /Instructors / Participant researchers	8
Other (Please specify.)	9
Unclear	3

In general, when reporting outcomes of their training, the focus of perceptions was very varied (see Table 3.23). Many courses claimed to lead to increased understanding about the TA role or job. The next most frequently reported impact was in the TAs' confidence or self-esteem. Job satisfaction featured in the reports, although there were some negative aspects to the evaluations of outcomes, with some TAs reporting frustration as a result of the training, particularly when there appeared to be no impact on their engagement in classrooms following the training events (e.g. Swann and Loxley, 1998). The outcomes on which studies focused are summarised in Table 3.23.

Table 3.23 Outcomes reported (N = 81, categories not mutually exclusive)

Outcomes reported	Number of studies
TAs' understanding of how to do job	32
TAs' confidence/self-esteem	29
Learning and teaching skills; instructional behaviours / skills	27
Pupil academic attainment/progress in skills	27
Subject knowledge	23

Job satisfaction	20
Pupil social skills, interaction	16
TA managing pupil behaviour	12
Teaming / teamwork	12
Verbal skills / ways to communicate	12
TA ways to include pupils	12
Assessment (how to assess pupils)	6
TAs working independently of teacher	5
TAs' responsibility for supporting learning in class	4
Awareness of disabilities	4
Avoidance of hovering / intrusion	2
Identification of own inadequacies	2
Confirmation of own good practice	2
Academic skills (e.g. research, writing)	1
Pay rise	1
Other	26
Unclear	10

Interestingly, the most frequent focus was on learning and teaching skills, the pedagogic role identified as being the most common contribution now made by TAs (Blatchford et al., 2007; Cajkler et al., 2006; Howes et al., 2003). Inclusion was specifically mentioned in 10 studies but the avoidance of hovering / intrusion when supporting pupils (a danger identified in both of our previous reviews, Cajkler et al., 2006) was apparently explicitly mentioned in only three studies (Giangreco et al., 2003a, b; Malmgren et al., 2005) as a specific outcome of the training though it might be inferred from others (e.g. McDonnell et al., 2002; Sack and McLean, 1997; Schepis et al., 2001). Given the importance of this issue, it is perhaps a matter of concern that, if our keywording was accurate, studies (and possibly training programmes) may not have yet given this aspect of inclusive practice a high enough profile. The other category was again very full as respondents in the study included a whole range of outcomes: for example, Broadbent and Burgess (2003) reported that TAs felt some new anxieties and challenges; Chan and Martin (2003) that parental presence was allowed in schools; Giangreco et al. (2003b) that home-school collaboration improved.

3.3 Identifying and describing studies: quality assurance results

Screening of citations

In the course of our reviews, of the 6,953 papers, 500 were subjected to initial screening by pairs of reviewers to evaluate the reliability and validity of the criteria and quality assure the screening process. A sample of 20 entries was screened by EPPI-Centre staff to check for consistency and accuracy in the Review Group's screenings. The subsequent 500 codings were subjected to scrutiny by two 'lead' reviewers who had been moderated by the EPPI-Centre reviewer to check for consistency and accuracy. Feedback was provided to all members of the Review Group and amendments were made to the exclusion criteria, in particular X2, to indicate that programmes training TAs to be teacher should be excluded.

Screening of full papers

A 10% sample of the 581 papers, which reviewers had decided to screen on the full text, was subjected to further moderation by pairs of reviewers. In addition, these papers were subjected to scrutiny at a meeting of the Review and Advisory Groups. A sample of ten included papers, along with ten excluded papers were sent to each member of the Review Group to check for consistency in the application of the criteria. If any doubt arose, papers were referred for second opinions. Sixty-seven papers were referred for a second opinion.

Quality assurance of keywording

First of all, two reviewers independently coded ten studies for moderation with a member of EPPI-Centre staff. A whole-group moderation exercise was undertaken for which three pairs of reviewers from the Review Group independently keyworded eight studies and then tabulated results. Five of the eight studies were also keyworded by an EPPI-Centre staff member for comparison to assure consistency and accuracy. This quality-assurance check indicated a level of agreement in excess of 90% on all papers.

Results of this process were discussed by the Review Group and discrepancies clarified. The remaining papers in the systematic map stage of the review were keyworded by all members of the Review Group. All these were then reviewed by the co-ordinator of the review to secure consistency, making sure that all studies were keyworded in a uniform way.

3.4 Summary of results of map

The keywording exercise demonstrated that the quality of reporting in terms of detail was somewhat variable. Reviewers often had difficulty locating key details: for example, the duration of the training provided, the number of participants, the ways data were collected or where training took place. Nevertheless, the studies are informative and we were able to come to the following conclusions:

- Studies came from three countries: the UK (27), Australia (7) and the USA (47).

- All studies (81) focused on TA training but other foci were specifically mentioned (e.g. management of TAs (13 studies); learning and teaching (19)).

- Within the training offered to TAs, the most common focus was on teaching or instructional skills (46), followed by inclusive practice (21) and literacy (20). SEN practice and behaviour management were significant in 18 studies. Teamwork was also seen as very important (17), but numeracy fared less well (8 studies) than literacy;

- TAs had a voice in 54 studies, for example, reporting perceptions about the outcome of the training though they were the focus of all the studies; teachers expressed views in 32 studies;

- Training events were offered to staff of 54 primary schools and 29 secondaries and 14 nurseries; they took place in a range of settings, usually the workplace (47 sites) but also in higher education institutions (19 studies) and on local authority sites (15).

- Training providers varied: 36 HEIs, 19 local districts/LEAs, 10 schools (some of these operated in provider partnerships) but 28 of the opportunities were associated with research projects, quite often research teams experimenting with particular approaches to support work (see below).

- Most courses were of the formal 'attended' type (44), but at least 33 involved on the job activity.

- There were relatively few long courses (16) and, where length of training was explained in the study (23 studies gave no indication of duration at all), it was often brief: a day or less (19 studies) and 2-5 days (13).

- Only two programmes involved any pre-service work while the rest were in-service opportunities.

- The awards offered were difficult to identify, with 30 to 36 studies focusing on award-bearing opportunities; at least 45 programmes involved no formal awards. There appears to be no clear awards framework for TAs in the UK, USA or Australia.

- Time made available for training was unclear in 39 studies, but 15 involved paid release from school, 2 unpaid release and 8 programmes were conducted in the TAs' own time; notions of TAs' entitlement to time for training were not explored but practice is clearly quite varied.

- Eight programmes appeared to involve no follow-up activity, 29 were unclear about this, and at least 39 involved some kind of additional activity (e.g. follow-up review meetings (12), observations of practice (20), monitoring by a mentor (3)).

- The evaluations focused on reporting outcomes about instructional skills (25), understanding how to do the job (31), and self-esteem/confidence levels (29) following training (usually reported to be rising). Other studies reported outcomes in relation to pupil attainment (25), TAs' subject knowledge (20) and their job satisfaction (19). Pupils' social skills (15), TA management of behaviour (12) and effective teamwork (12) also featured strongly as outcomes of training.

- Finally, it must be noted that reporting in many of the studies was often flawed by omission of important details. In 17 studies, it was not even possible to identify how many TAs had been surveyed or indeed who had been surveyed. A further six were unclear about the number of TAs, although they specified that TA feedback on the training was sought.

Insights gained from the mapping

The mapped studies indicate a patchwork quilt of provision for TA training, about which there is continual and serious concern.

There is little nationally co-ordinated practice in the UK, with the exception of two initiatives:

- HLTA provision (reported in two studies: Pye Tait, 2006; Foulkes, 2005) which does not tackle the needs of the majority of TAs

- the locally taught DfES induction programmes, which do not appear to be mandatory for all new TAs and for which take-up is by no means universal, as reported by Russell et al. (2005)

The STAC programme is still offered (though is now limited for this) and there was one recent evaluation (Ryall and Goddard, 2003) but three others are almost ten years old.

In the USA, little evidence of nationally planned provision was found, although individual state programmes were offered and there was some evidence of these being evaluated. While there are moves to professionalise paraprofessional staff, the picture emerging from this review was of patchwork provision, partial take-up and limited evaluation of the training available.

Prior to the arrival of the DfES Induction Initiative in England in 1994, local initiatives had offered training to support staff. For instance, Clayton (1990, p 72) had reviewed the operation of one-day induction programmes for primary school welfare assistants offered by four educational psychologists in Wiltshire, England. The training focused on the range of difficulties that welfare assistants were likely to encounter; how to contribute to

the education of children to them; the legal and organisational situation in their locality; and opportunities to share ideas.

Pre-entry training seems to be an undeveloped area, although paraeducator entry level training has been developed by Giangreco et al. (2002) and also it is certainly discussed by others (for example, Steckelberg and Vasa, 1998). However, in some states in the USA covered by our review (e.g. Vermont, mentioned in Riggs and Mueller, 2001), and in regions of the UK, there has as yet been no requirement for pre-entry training for teaching assistants. The evidence suggests that this applies to Australia as well.

There are significant opportunities for in-service provision, although uptake is certainly not universal and many TAs reported dependence on incidental on-the-job training, advice from colleagues especially teachers and learning from their own experience. TAs, appointed since 2000 in the UK, could have taken the DfES induction programme (usually about four days in duration) offered by their local authorities but the effectiveness of the programme and the extent to which it has been applied to TAs has not yet been systematically measured, although a study was awaited from the end of November 2006 commissioned by the TDA from the University of Luton(TDA, 2007), since re-named University of Bedfordshire. We received a draft copy on 7 March 2007 by email but this was not published in time for it to be included in our review. Overall, the draft report found that TAs were positive or strongly positive about their experiences of induction training and materials (TDA, 2007, p 12). Russell et al. (2005) express concerns about the limited take-up of even the induction programme, echoing concerns in the USA. Papers found in the USA and Australia suggested that training was still being developed with little overall co-ordination of the effort.

The number of award-bearing programmes (30) evaluated would seem to indicate that few opportunities exist. Some programmes offer certificates but for completion only (Steckelberg and Vasa, 1998). The picture has been changing with the development of foundation degrees in the UK and associate degrees in the USA.

Some programmes have attracted attention from researchers especially in the UK, with studies of the STAC course and FdA/BA programmes short university modules offering credit towards certificates or degrees. The STAC has achieved significant acknowledgement in the UK and this seems widely recognised and well evaluated; there are also a range of other awards (for example, vocational qualifications (NVQs)), but we could find no evaluations of their impact on TAs. The HLTA provision had trained or recognised (by the assessment only route) approximately 11,000 TAs as higher level by mid-2006, with a further 4,000 expected. Evaluations of this development have

already been undertaken (Foulkes, 2005; Pye Tait, 2006), although the first of these focused in particular on the assessment-only routeway to HLTA status (demonstration of competences without following a formal programme of training).

A large number of studies (28) are of short-term research related training projects, focusing on specific issues or specific classroom techniques, such as zoning (Cremin et al. 2003) or phonics (Savage and Carless, 2005). (See section 3.5 for a summary of these programmes.)

Award-bearing modules appeared to be offered in the USA and Australia, and these have been studied to varying degrees (e.g. Broadbent and Burgess, 2003; Blalock et al., 1992; Giangreco et al., 2003a), although the Review Group was often uncertain about the nature of the award.

Finally, with regard to award-bearing programmes, there appear to have been few studies that seek to measure impact through quantitative data, such as student results or observations of TA behaviours. Rather, the evaluations depended on reports from participants about the impact of training on their practice, morale, understanding and awareness.

3.5 Research-related training

A large number of studies (28) were researcher-initiated events, associated with a particular research project, often addressing issues of importance to a school or locality. In most cases, such programmes were not award-bearing. The training was often offered directly by researchers (or organised by researchers), then evaluated for impact. These events were of short duration and often very specific in their focus, with relatively small numbers participating. Tables 3.24-3.26 offer a summary of the foci, duration of each programme and principal claimed impacts for UK (9), Australian (5) and US (14) studies. The evaluations of these projects led to claims that the studies achieved a range of impacts, as summarised in tables 3.24-3.26, but these studies have not been quality assessed by the Review Group.

In the UK, several of these studies felt able to make claims about impacts on pupils' learning and engagement: for example, Elliott et al. (2000) and Potter and Richardson (1999) on literacy; Sage (2005) on communications skills; and Savage and Carless (2005), Savage et al. (2003) on support for literacy development. The following were also considered: teamwork (Cremin et al. 2003, 2005; Elliott et al., 2000) and TAs' confidence (Cremin et al., 2005; Davies et al., 2004). A summary of the outcomes of UK researcher initiated studies is presented in Table 3.24.

Table 3.24 Researcher initiated studies in the UK (N = 9)

Study	Focus of training	Contact time	Outcome reported	How was training measured?
Cremin et al. (2003)	Basic instructional skills; effective teaming	One day or less	Pupil progress; TAs working independently of teacher; teaming	Perceptions; measurement; observational measures
Cremin et al. (2005)	Room management, zoning, reflective practice; teaming	One day or less	TAs' confidence / self-esteem; TAs' understanding of how to do job; teaming	Perceptions; measurement of TAs' training
Davies et al. (2004)	Literacy	40 mins per week for eight weeks	TAs' confidence / self-esteem; pupil progress; TAs' understanding of how to do job; TAs working independently of teacher; job satisfaction	Perceptions; measurement; quantitative results
Elliott et al. (2000)	Literacy; behaviour management; effective teaming	One day or less	Pupil progress; TAs' understanding of how to do job; subject knowledge; TA managing pupil behaviour; teaming	Measurement
Pearson et al. (2003)	Basic instructional skills; AR for TAs / reflection; use of video for reflection	Half-day	TAs' understanding of how to do job; identification of own inadequacies; confirmation of own good practice	Perceptions
Potter and Richardson (1999)	AR for TAs / reflection; use of video for reflection	Part-time short	Pupil progress	Perceptions
Sage (2005)	Communication skills for pupils	One day or less	TAs' confidence/self-esteem; pupil social skills, interaction; TA ways to include pupils; subject knowledge; verbal skills / ways to communicate	Perceptions
Savage and Carless (2005)	Literacy programme; phonics	One morning	Pupil progress; early decoding ability, letter-sound knowledge and phonological awareness; instructional skills; subject knowledge (literacy)	Measurement
Savage et al. (2003)	Literacy programme	One day or less	Advancing basic literacy in poor readers	Measurement

There were five researcher-initiated studies in Australia: for example, Rees et al. (1995) explored pupils' progress and social skills, while Hall and McVean (1997) reported on the ways pupils communicated. Other studies and characteristics are listed in Table 3.25.

Table 3.25 Researcher initiated studies in Australia (N = 5)

Study	Focus of training	Contact time	Outcome reported	How was training measured?
Arthur et al. (1998)	Basic instructional skills; TA communication skills; inclusive practice; assessment of pupils	3 x 3 hours over nine weeks	TAs' confidence / self-esteem; TAs' understanding of how to do job; instructional skills; assessment of pupils; job satisfaction	Perceptions; measurement
Cairney and Munsie (1993)	Literacy programme Parents supporting secondary pupils' literacy development	Unclear	Subject knowledge; new knowledge of how pupils learn; how school works, study habits, time management, etc.; communication skills; parent skills in communicating; reference skills, reading skills, note-taking	Perceptions; measurement
Hall and MacVean (1997)	SEN and effective learning; support (e.g. dyslexia, autism, AD/HD)	Unclear	TAs' confidence / self-esteem; verbal skills / ways to communicate	Perception of TAs' training
Hall et al. (1995)	Other (Please specify.) Prompt reduction	Unclear	Students' communication skills	Perception of TAs' training
Rees et al. (1995)	Basic instructional skills	Two-five days FTE	Pupil progress; pupil social skills; interaction	Measurement

In the USA, researcher-initiated studies, while only available to a few TAs, may provide evidence for more widely available programmes of training. For example, in the USA, the following impacts, among others were identified: Vadasy et al. (2005) explored reading accuracy and fluency; Schepis et al. (2000, 2001, 2003), Sack and McLean (1997), Haney and Cavallero (1996), Malmgren et al. (2005) and Causton Theoharis et al. (2005) reported on pupils' social skills, and interaction with others; Minner (1989), Parsons et al. (1996), McDonnell et al. (2002) and Granger and Grek (2005) mentioned pupil progress as an impact. A summary is provided in Table 3.26.

Table 3.26 Researcher-initiated training programmes in the USA (N = 14)

Study	Focus of training	Contact time	Outcome reported	How was training measured?
Causton-Theoharis and Malmgren (2005)	Inclusive practice; increasing peer interactions	One day or less	Pupil social skills, interaction; TA ways to include pupils	Measurement
Granger and Grek (2005)	Basic instructional skills; literacy programme	Two days plus monthly meetings	Pupil progress; instructional skills	Perceptions; measurement
Haney and Cavallaro (1996)	Basic instructional skills; inclusive practice; planning	Three one-hour sessions	Pupil progress; pupil social skills / interaction; TA ways to include pupils; TAs' understanding of how to do job	Perceptions; measurement
Malmgren et al. (2005)	Basic instructional skills; Inclusive practice (e.g. fading/reducing TA proximity); SEN + effective learning; support (e.g. dyslexia, autism, AD/HD)	Three hours	Pupil social skills, interaction; TA ways to include pupils; avoidance of hovering / intrusion; TA managing pupil behaviour	Perceptions; measurement
Martell et al. (1993)	Behaviour management	Unclear	Instructional skills; verbal skills / ways to communicate	Measurement
McDonnell et al. (2002)	Basic instructional skills; inclusive practice; embedded instruction	One hour then training and feedback in school	Pupil progress; TA ways to include pupils; Instructional skills; constant time delay, reinforcement, error correction and data-collection procedures	Perceptions; measurement
Minner (1989)	Numeracy; involving parents in pupils learning of mathematics	Three one- hour training sessions	TAs' understanding of how to do job; instructional skills; pupil progress; verbal skills / ways to communicate; parents involved in mathematics work of their children	Perceptions; measurement
Parsons et al. (1996)	Basic instructional skills; inclusive practice; SEN + effective learning; support (e.g. dyslexia, autism, AD/HD); assessment of pupils; effective teaming	One day or less	Pupil progress; instructional skills; verbal skills / ways to communicate	Perceptions; measurement; observations
Sack and McLean (1997)	SEN + effective learning; support (e.g. dyslexia, autism, AD/HD); enhancing communication skills of the severely disabled	Unclear	Pupil social skills; instructional skills; verbal skills / ways to communicate; basic interactional skills	Perception of TAs' training
Schepis et al. (2003)	Basic instructional skills; Inclusive practice	90 minutes	Pupil social skills, interaction; TA ways to include pupils	Measurement
Schepis et al. (2000)	Basic instructional skills; inclusive practice; cooperative participation between preschoolers with or without disabilities	Unclear	Pupil social skills, interaction; TAs' understanding of how to do job; instructional skills	Measurement
Schepis et al. (2001)	Basic instructional skills; inclusive practice; embedded instruction	60 to 90 minutes + in-class activities	Pupil progress; pupil social skills, interaction; TA ways to include pupils; instructional skills	Measurement
Vadasy et al. (2005)	Basic instructional skills; phonics; literacy programme; explicit correction; scaffolded help to sound out words	2 to 4 hours; school based over a year	Pupil progress; TAs' understanding of how to do job	Measurement

3.6 General surveys of training

Eight studies offered general surveys of training, although these studies were usually more widely focused (for example, on the management, deployment and job satisfaction of TAs). They gave different levels of information about the focus and outcomes of current training opportunities.

Table 3.27 General review studies

Study	Awards (if any) and target TAs	Focus of programmes	Outcomes reported on
Blodgett and Miller (1997)	Academic programmes to prepare speech language paraprofessionals (SPLAs) in Kentucky, including bachelors' degrees in Kentucky. Details not clear.	Effective teaming; assisting in collaborating with school professionals TA Communication skills-conduct speech language screening; assist in administering tests; provide therapy for students; attend IEP meetings	Job satisfaction
Coufal et al. (1991)	Unclear: training practices for paraprofessionals in 11 mid-western states; principally on the job training	A range of topics included in training programmes: job role; one-to-one instruction; legal and ethical issues; behaviour management; school policies; knowledge of handicaps; observation and charting; instructional materials; equipment operation; first aid safety; posturing; screening/assessment	TAs' understanding of how to do job
Riggs and Mueller (2001)	Unclear: mostly on the job: 23 primary paraeducators in Connecticut, plus 758 respondents to a survey	Supervising and monitoring; direct instruction; attending IEP meetings; independently planning instruction, but only 8-12% of respondents attended in-service workshops	Identification of own inadequacies
Farrell et al. (1999)	STA Course; City and Guilds: 28% of LEA; Cache; BTEC; CLANSA literacy / numeracy, NASEN one day, Down's Syndrome Educational Institute, Maria Montessori Training Organisation (60 hours); RNIB primary and secondary school TAs	Instruction skills; inclusive practice; SEN and effective learning; academic support for diagnosed condition (e.g. dyslexia, autism, AD/HD); support for visually impaired (RNIB course); literacy programme; numeracy; behaviour management; assessment of pupils; general classroom support; action research for TAs/reflective practice; a range of programmes	Understanding how to do job; ways to include instructional skills
Lee and Mawson (1998)	STAC: 19% City and Guilds: 25%; First Aid Certificate: 15% Primary school TAs	Instruction skills; inclusive practice; SEN and effective learning; academic support for diagnosed condition (e.g. dyslexia, autism, AD/HD); general classroom support	Job satisfaction
Russell et al. (2005)	NVQ Level 2 and 3 mentioned; Cache (mentioned in a list on page 181) level 2 and 3; DfES Induction Several awards mentioned (e.g. BTEC Level 2, NCFE Level 2, NNEB) Unspecific INSET, school-based; primary school TAs	Instruction skills; behaviour management; general classroom support	TAs' confidence/self-esteem; subject knowledge, TA managing pupil behaviour
Smith et al. (2004)	DfES induction; possibly First Aid Certificate; rather unclear whether primary or secondary school TAs	Inclusive practice; SEN and effective learning; academic support for diagnosed condition (e.g. dyslexia, autism, AD/HD) especially in secondary; first aid	Subject knowledge
Wilson et al. (2002)	DfES Induction: Scottish version: Professional Development Award (Scotland) PDA Primary school TAs	Instruction skills; general classroom support; ICT skills	TAs' understanding of how to do job

The small number of studies that included some evaluation of induction programmes, such as the DfES induction in England (Russell et al., 2005; Smith et al., 2004) and in Scotland (Professional Development Award), offered little information about the outcomes of such programmes. However, Wilson et al. (2002, p 18) reported that on the job training was the most useful. While some TAs found the PDA courses beneficial, others reported that they were lacking in both quality and relevance. 40% had not received any training related to the PDA. However, it should be noted that Wilson et al. give relatively little space in their report to the issue of training.

Some of these studies raised concerns about existing provision of training. With regard to support staff in speech and language therapy, Coufal et al. (1991, p 55) conclude: 'In general, training, utilization and supervision of paraprofessionals appear to lack consistently specified standards for quality...Current training practices focus on provision of continuing education and on-the-job training, with minimal requirements for pre-service training'.

Riggs and Mueller (2001) and Russell et al. (2005) in the map have discussed the current patchy uneven provision, though this concern is by no means confined to studies in the map, with several other studies investigating this (e.g. Giangreco et al. 1997, and Marks et al. 1999). Russell et al. (2005) in England investigated training patterns for Key Stage 2 teaching assistants (7-11 year old pupils) and concluded (p 187). 'In line with previous research, training of TAs appeared patchy and take-up not extensive.' The authors found that only a quarter of their sample of 340 had attended the induction training (p 181). 53% reported that they did not know about the DFES induction course. They concluded that the vast majority of TAs have not been prepared for the pedagogic contributions that TAs make to pupils' learning and to maintain their engagement in classroom activities. They also report similar concerns in the USA (Gerber et al., 2001) about the need to review the preparation of TAs for their roles in supporting learning.

CHAPTER FOUR
In-depth review: results

This chapter describes perceptions about the impact of support staff from the 16 studies selected for in-depth study. They were analysed by three reviewers in each case to characterise perceptions of impact from TA training programmes.

4.1 Selecting studies for in-depth review

The 16 studies included for the in-depth review (see Appendix 2.1 for in-depth criteria) are published reports or articles, with dissertations excluded from the study (Table 4.1). Nine studies were conducted in the United Kingdom, one in Australia and six in the USA. They were published between 1988 and 2006, and related to training that led to some form of award (e.g. a university degree or a district award). The focus was on primary and secondary schools only, so evaluations of training for TAs working exclusively with nursery–aged children were not included. In addition, the focus was on award-bearing training, unlike in the map where all forms of training were considered.

Table 4.1 Studies included in in-depth review (N = 16)

Blalock G, Rivera D, Anderson K, Kottler B (1992) A school district/university partnership in paraprofessional training. LD Forum 17: 29-36.
Broadbent C, Burgess J (2003) Building effective inclusive classrooms through supporting the professional learning of special needs teacher assistants. Paper presented at: Adult Learning Australia (ALA) Conference (43rd). Sydney.
Edmond N (2003) School-based learning: constraints and limitations in learning from school experience for teaching assistants. Journal of Education for Teaching 29: 113-123.
Edwards E, Clemson D (1997). Reflections on the comparative roles of the NNEB Diploma in Nursery Nursing and the Specialist Teacher Assistant Certificate. Paper presented at: British Educational Research Association Annual Conference. University of York: 11-14 September.
Forbush DE, Morgan RL (2004) Instructional team training: delivering live internet courses to teachers and paraprofessionals in Utah. Rural Special Education Quarterly 23: 9-17.
Giangreco MF, Backus L, CichoskiKelly E, Sherman P, Mavropoulos Y (2003a) Paraeducator training materials to facilitate inclusive education: initial field-test data. Rural Special Education Quarterly 22: 17-27.
Gittman E, Berger R (1997) Impact of teacher education courses on paraprofessionals' job performance, knowledge, and goals. Paper presented at: Annual Meeting of the Northeastern Educational Research Association. New York: 22 October.
Hutchings M (1997) The impact of a specialist teacher assistant training programme on the development of classroom assistants. Early Years 18: 35-39.
O'Keefe J, Tait K (2004) An examination of the UK Early Years foundation degree and the evolution of senior practitioners: enhancing work-based practice by engaging in reflective and critical thinking. International Journal of Early Years Education 12: 25-41.
Pye Tait (2006) Evaluation of the Higher Level Teaching Assistant Training and Assessment Programme. Harrogate: Pye Tait for the Training and Development Agency (TDA).
Romano JL (1999) Prevention training of paraprofessionals in the schools: an examination of relevancy and effectiveness. Journal of Drug Education 29: 373-386.

Ryall A, Goddard G (2003) Support staff in primary school: reflections upon the benefits of training and implications for schools. Education 3-13, 31: 72-78.

Sack S, H, McLean LK (1997) Training communication partners: the new challenge for communication disorders professionals supporting persons with severe disabilities. Focus on Autism and Other Developmental Disabilities 12: 151-158.

Swann W, Loxley A (1998) The impact of school-based training on classroom assistants in primary schools. Research Papers in Education 13: 141-160.

Terrell I, Revill G, Down J (2004) Developing the role and effectiveness of teacher support staff through an innovative online graduate programme. Paper presented at: British Educational Research Association Annual Conference (16-18 September 2004: University of Manchester).

Wilkins R (2004) Developing school support staff through practice development groups. Education Today: Journal of the College of Preceptors 54: 24-28.

The table in Appendix 4.1 gives summary details of the studies included in the in-depth review, according to the review-specific questions. The complete data-extraction records for each study can be found on the EPPI-Centre website, where comprehensive information about the methodological processes behind each study can be explored with more detail than is feasible or desirable in this report itself.

4.2 Comparing the studies selected for in-depth review with the total studies in systematic map

In this section, the in-depth studies (N=16) are compared with those in the map (N=81).

The 81 studies were conducted in three countries:

Table 4.2 Country of study (N = 16*)

Country of study	In-depth	Map
UK	9	27
USA	6	47
Australia	1	7

* Codes are mutually exclusive

The educational setting(s) of the study

Ten of the in-depth studies were linked to a higher education institution (HEI). As can be seen from Table 4.2, primary schools featured more often than secondary schools. In this table and others, the categories are often not mutually exclusive; in this case, many studies reported on training set in more than one type of institution.

Table 4.3 The educational setting(s) of the study (N = 16*)

Educational setting(s) of the study	In-depth	Map
Higher education institution	10	13
Local education authority	4	12
Nursery school	2	13
Post-compulsory education institution	1	1
Primary school	9	46
Residential school	1	2
Secondary school	3	26
Workplace	1	2
Secondary school	1	6

* Codes are not mutually exclusive

Table 4.4 shows the sectors for which the TA training was provided. The secondary schools are in the minority, as at the mapping stage.

Table 4.4 Which TAs? (N=16*)

For which TAs is the training offered?	In-depth	Map
Primary school TAs	11	54
Secondary school TAs	5	29
Nursery/kindergarten	3	14
Other	3	8
Unclear	5	12

Study type

In the map as a whole, studies were often found to be unclear about their type, with some studies offering only limited explanation. However, in the final set of 16 in-depth studies, all studies were evaluations, usually naturally occurring. There were 17 descriptions in the map but none of these were included for in-depth review.

Table 4.5 Type(s) of study (N=16*)

Type(s) of study	In-depth	Map
Evaluation: naturally occurring	11	36
Evaluation: researcher-manipulated	5	27
Description	0	17
Exploration of relationships	0	1

* Codes are mutually exclusive

Status and number of support staff

The number of support staff participating in each study was clear in 12 studies and unclear in 4, reflecting similar numbers in the map.

Table 4.6 Number of staff participating in study (N = 16*)

Clarity as to number of staff participating in study	In-depth	Map
Clear	12	62
Not known / unclear	4	17
Not relevant	0	2

* Codes are mutually exclusive

Type of training event

The Review Group found that all the studies related to in-service training, with only one in-depth review study (Giangreco et al., 2003a) making any mention of an entry level programme.

Table 4.7 The status/level of the training event (N = 16*)

The status / level of the training event	In-depth	Map
Entry-level training	1	2
Induction training (e.g. DfES / LEA orientation)	1	4
In-service / CPD training	16	70
Initiative related in-service (e.g. NLS)	1	2
Researcher initiated training	3	28

* Codes are not mutually exclusive

Type of training involved

The formal course predominated but new ventures, including distance learning programmes, were in evidence. On the job training elements were identified in relation to six programmes, although this may have been a feature of more.

Table 4.8 Type of training involved (N = 16)

Type of training involved	In-depth	Map
Formal course attended	12	44
On the job training / classroom-based training	6	33
Training by mentor in school	3	5
Distance learning programme	2	3
Self-managed / directed learning activity	2	3
Online learning programme	3	4
Training by researcher	2	28
Other	1	9

* Codes are not mutually exclusive

Status of the training

The Review Group sought to identify training programmes that led to awards, which proved quite a challenge in both the map and the in-depth studies. Details of the studies selected and the programmes of training evaluated in those studies can be found in Appendix 4.1.

Table 4.9 Type of training award (N = 16*)

Type of training award	In-depth	Map
STA course	4	4
HLTA training	1	2
Degree / Foundation degree (associate degree)	2	3
City and Guilds	0	2
DfES Induction	0	3
Paraeducator entry level certificate	1	2
Bachelor's Degree (BA/BSc)	2	2
LEA / Local district award	1	1
State wide programme (USA)	1	2
First Aid Certificate	0	2
ESEA award (USA)	0	1
CACHE	0	1
Other (e.g. college credits, certificate award)	5	11
Unclear	0	25
No apparent award	0	20

* Codes are not mutually exclusive

Who offered the training?

Universities were heavily involved in offering the programmes followed by local districts or LEAs, sometimes in partnership with universities (Table 4.10).

Table 4.10 Who offered the training? (N = 16*)

Who offered the training?	In-depth	Map
HEI/University	14	36
LEA / Local district (in USA/AUS)	5	19
FE college	2	2
School (TAs)	2	10
Independent provider	3	3
Professional association	2	2
Research project team	1	28
Other	2	12
Unclear	1	9

* Codes are not mutually exclusive

The proportion of HEI awards rose significantly in the in-depth studies (14 out of 16) as one would expect,

given inclusion in the map of all forms of training. The low number offered by professional associations in both the map and in-depth studies perhaps does not reflect the number of providers but indicates that programmes offered by such bodies (e.g. the Nurture Network and SEBDA in the UK) have not been subject to published evaluation. The scattered nature of the existing provision is evident from Table 4.10.

Focus of the training

The focus of training followed a similar pattern to that identified in the full map, with learning and teaching skills (sometimes referred to as 'instruction skills') the most common focus, followed by teamwork development, SEN and inclusion.

Table 4.11 Focus of the training (N=16*)

Focus of the training	In-depth (16)	Map (81)
Learning and teaching skills, basic instruction skills	11	46
Inclusive practice (securing inclusion in mainstream) e.g. facilitating peer interaction	2	21
SEN and effective learning (not necessarily inclusion), academic support for diagnosed condition (e.g. dyslexia, autism, AD/HD)	4	18
Support for hearing impaired	1	3
Literacy programme	4	20
Numeracy	4	8
Behaviour management	4	18
Assessment (how to assess pupils)	3	9
Effective teaming	5	17
General classroom support	4	15
TA Communication skills	2	7
Action research for TAs/ reflective practice	3	6
Other	6	32

* Codes are not mutually exclusive

Length of training contact time

Contact time varied and there were several long programmes: for example, the STAC courses (Edwards and Clemson, 1997; Hutchings, 1997; Ryall and Goddard, 2003; Swann and Loxley, 1998) and the degree programmes in the UK (Edmond, 2003; O'Keefe and Tait, 2004; Terrell et al., 2004). Twenty-five percent of the in-depth studies were unclear as to programme duration, with a similar proportion (28%) unclear at the mapping stage (23 out of 81).

Table 4.12 Length of training (N=16*)

Length of training	In-depth	Map
1 day or less	0	19
2-5 days FTE	3	13
Short course (e.g. one twilight session a week per term)	1	9
Short course (one FTE per week for 5-10 weeks)	1	2
Long course (more than 5-10 weeks to one year, part-time)	7	14
Long course (two years, part-time)	1	2
Online	1	1
Other	0	10
Unclear	4	23

* Codes are not mutually exclusive

Context of training attended

Many studies (56% in-depth and 58% at the mapping stage) were located in the participants' workplace, although some (e.g. the STAC courses) also involved attendance at a university or other site of training. Some programmes involved activities in more than one site.

Table 4.13 Context of training attended (N = 16*)

Context of training attended	In-depth	Map
Own work site (e.g. school)	9	47
HEI/University	9	19
LEA/district training day-centre	4	15
Online community	5	6
Other	2	9
Unclear	1	16

* Codes are not mutually exclusive

Applied activity during training

Almost all programmes involved applied activity during the training, with some programmes including follow-up activities, and some involving school-base observations (see Table 4.14). Again, the figures may be misleading as the detail in some of the studies was difficult to interpret.

Table 4.14 Applied activity during and after training (N = 16*)

Applied activity while training	In-depth	Map
Attendance only (No further activity)	1	6
Workplace activity involved	8	33

Directed tasks obligatory	9	19
Observations of practice included	3	20
Assessment of knowledge/ skill required	4	10
Mentor support in school	3	7
Other	2	13
Unclear	2	21
Post training activity		
No follow-up	3	8
Follow-up meetings to review progress / impact (e.g. after three months)	1	12
Observations to monitor implementation (e.g. probes by trainers or mentor)	1	20
Request for feedback on impact (by trainer)	1	12
Monitoring by mentor	2	3
Online community follow-up	3	3
Follow-up tasks / portfolio	5	7
Other	1	18
Unclear	6	29

* Codes are not mutually exclusive

Thirty-eight per cent of the in-depth studies were unclear as to whether the programmes being evaluated included follow up activities, with a similar proportion (36%) of the mapped studies being unclear.

Study focus: how is the training evaluated or explored?

When seeking to assess the impact of the training programme, most studies reported perceptions. The two studies in the map which sought to measure impact directly (Forbush and Morgan, 2004; Romano,1999) used pre and post-training knowledge tests. We did not find any studies which made use of observations to assess the impact of the training, as opposed to some of the short researcher-initiated training reported in the map.

Table 4.15 Methods for measures of impacts (N = 16*)

Methods for measures of impacts	In-depth	Map
Evaluate / explore by Perception of TAs' training	16	67
Evaluate / explore by measurement of TAs' training	2	33

* Codes are not mutually exclusive

Stakeholder perceptions reported were usually those of support staff themselves, but other voices were heard (Table 4.16).

Table 4.16 Which stakeholder perceptions are reported? (N = 16*)

Which stakeholder perceptions are reported?	In-depth	Map
Support staff	14	54
Teachers	4	32
Headteachers/Senior management	2	6
Trainers/instructors/ participant researchers	4	8
Other	2	9
Unclear	0	3

* Codes are not mutually exclusive

The predominant perceived outcome seemed to be an increase in TAs' confidence and self-esteem. Their understanding of how to do the job was reported to improve. Compared with the mapping stage, only slightly less emphasis seemed to be given to direct instructional behaviours with four studies highlighting these, compared with 27 in the map of 81 studies

Table 4.17 Outcomes reported (N = 16*)

Outcomes reported	In-depth	Map
TAs' confidence / self-esteem	11	29
TAs' understanding of how to do job	11	32
Subject knowledge	8	23
Job satisfaction	6	20
Teaming/teamwork	5	12
Learning and teaching skills; instructional behaviours / skills	4	27
Verbal skills / ways to communicate	4	11
TA managing pupil behaviour	4	12
Pupil social skills, interaction	3	15
TAs working independently of teacher	3	5
TA ways to include pupils	2	10
Assessment (how to assess pupils)	2	6
Awareness of disabilities	2	4
Pupil academic attainment / progress in skills	1	27
TAs' responsibility for supporting learning in class	1	4
Avoidance of hovering / intrusion	1	2
Academic skills (e.g. research, writing)	1	1
Confirmation of own good practice	1	2
Pay rise	1	1
Other	6	26
Unclear	1	10

* Codes are not mutually exclusive

Table 4.18 Results of assessment of weight of evidence for each study

	Trustworthy in terms of own question (A)	Appropriate design and analysis for this review question (B)	Relevance of focus to review question (C)	Overall weight in relation to review question (D)
Swann and Loxley (1998)	High	High-medium	High	High
Edwards and Clemson (1997)	Medium	Medium	Medium	Medium
Giangreco et al. (2003)	Medium	Medium	Medium-high	Medium
Gittman and Berger (1997)	Medium	Medium	Medium-high	Medium
Pye Tait (2006)	High	Medium-low	Medium-low	Medium
Romano (1999)	Medium	Medium	Medium	Medium
Hutchings (1997)	Medium	Low-medium	Medium	Medium-low
O'Keefe and Tait (2004)*	Medium	Medium-low	Low-medium	Medium-low
Blalock et al. (1992)	Low-medium	Low-medium	Low-medium	Low-medium
Edmond (2003)	Low-medium	Low-medium	Low-medium	Low-medium
Ryall and Goddard (2003)	Low-medium	Low	Medium	Low-medium
Wilkins (2004)	Low-medium	Low-medium	Low	Low-medium
Broadbent and Burgess (2003)	Low	Low	Low-medium	Low
Forbush and Morgan (2004)	Low	Low-medium	Medium-low	Low
Sack and McLean (1997)	Low	Low	Low-medium	Low
Terrell et al. (2004)	Low	Low-medium	Medium	Low

These issues were probed more deeply in the in-depth review and more detailed analysis of the outcomes occurs in section 4.3. However, the in-depth analysis of studies grouped the impacts under 15 refined headings as explained in section 2.4.4.

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

Weight of evidence (WoE)

Following the procedures outlined in section 2.3, judgments about weight of evidence were made of all 16 included studies, together with an overall weight.

Table 4.18 indicates that seven studies were clustered in the middle range of weight, with only one study high in quality, eight studies being of low or low-medium weight of evidence. The following synthesis of the evidence has to be read with that in mind.

4.4 Synthesis of evidence

From this point on, we consider only the 16 studies and the reporting will be organised in terms of the training course, with the more weighty studies reported separately from the less secure ones. The findings will be reported in order of the two main questions (effects on teaching assistants and effects on outcomes of their work). With respect to the 15 themes, these will be reported where there was some weight of evidence (omitted where evidence was insignificant or non-existent) and in order of the significance of the findings. Where groups of studies are considered, tables with examples of the evidence are used, with keywords in the evidence highlighted in bold print. Low/low-medium WoE studies will be discussed in brief only at the end of the detailed discussion of medium/high WoE studies.

In the analysis below, the 16 in-depth studies have been grouped according to the training programme under consideration (see Table 4.19). Attention is given firstly to those studies deemed to be medium-low overall WoE or higher. The extent to which the studies address the categories detailed in section 2.4.4 is discussed, with direct quotations from the studies given to illustrate the points made.

Setting aside the low and low-medium studies, the synthesis, will focus principally on the groups listed in Table 4.19.

Table 4.19 Authors and training programmes evaluated

Study	Training type	WoE
UK Studies of STAC programmes		
Edwards and Clemson (1997)	STAC (and in comparison with NNEB)	Medium
Hutchings (1997)	STAC	Medium-low
Swann and Loxley (1998)	STAC	High
UK studies of BA/FdA programmes		
O'Keefe and Tait (2004)	FdA Early Years	Medium-low
HLTA study		
Pye Tait (2006)	Higher level teaching assistant (HLTA)	Medium
US Programmes		
Giangreco et al. (2003a)	Paraeducator training materials to facilitate inclusive education: initial field-test data paraeducator entry level course challenging behaviours course	Medium
Gittman and Berger (1997)	Modules towards a degree	Medium
Romano (1999)	Prevention training of paraprofessionals in schools (alcohol and other drugs): LEA / local district award	Medium

Table 4.20 STAC studies

Study	Sample	WoE
Edwards and Clemson (1997)	37 TAs in survey; 21 in case studies with heads and teachers	Medium
Hutchings (1997)	16 STAs	Medium-low
Swann and Loxley (1998)	147 STAs	High
Ryall and Goddard (2003)	Not clear	Low-medium

At the end of each section, low WoE studies will only be mentioned when the analysis led to the identification of findings that add to, or appear to confirm, findings in the medium and high WoE studies.

4.4.1 Findings from UK studies of STAC courses (N = 4)

4.4.1.1 Medium-low to high studies

Three medium to high studies (Edwards and Clemson, 1997; Hutchings, 1997; Swann and Loxley, 1998), focused on STAC courses in England. In addition, one low-medium WoE study (Ryall and Goddard, 2003) was found. The STAC programme was introduced in 1994 by the Department for Education to address the needs of specialist teaching assistants (STAs), with funding to support participation. These opportunities were offered by HEIs and by local authorities, often working together in partnership.

The following commentary on the three studies

deemed to be medium-low or higher WoE needs to be read in the light of the weights of evidence (WoEs), with Swann and Loxley (1998) clearly the most reliable.

4.4.1.2 What does the STAC training do for the TAs?

All medium to high weight studies reported impacts in the following:

• subject knowledge

• job satisfaction

• motivation, confidence and self-esteem

• teamwork

These principal direct impacts on TAs will be discussed in detail below.

The following impacts on TAs were less frequently reported and will not form part of the detailed discussion:

Table 4.21 Examples of STAC impacts on subject knowledge

Studies	Results: subject knowledge	WoE
Edwards and Clemson	Nursery nurses and TAs: more focus on skills than subject knowledge, but subject knowledge development implied; little on subject knowledge, more on value of NNEB or STA awards	Medium
Hutchings	STAs acquired better understanding of the language used by teachers; understanding of how children learn, particular for subjects such as English and mathematics; increased subject knowledge; theoretical ideas re: how children learn have an impact on how STAs supported children.	Medium-low
Swann and Loxley	Greater knowledge and understanding; informally, students also hinted that the course had enabled them to share a technical vocabulary and set of concepts with teachers that made it easier for them to take part in educational discourse (p 146). Rises in knowledge of work of the following: classroom teacher (28% medium, 60.3% high), National Curriculum core subjects at KS1 (17% medium, 80.3% high); pupil learning and the factors which influence this process (17% medium, 69.4% high) 'level of understanding of learning and teaching processes which consequently enables them to carry out their work with children more confidently and effectively'.	High

- academic skills

- reflection

- verbal skills / communication skills

SUBJECT KNOWLEDGE

Perhaps the most significant impact identified in two of the studies was an increase in subject knowledge, in particular:

- understanding educational discourse; language used by teachers; understanding of the teaching/ learning process (Hutchings, 1997; Swann and Loxley, 1998)

- how children learn (implicit in Edwards and Clemson, 1997; but specifically mentioned in the other two studies)

- knowledge about subjects in the curriculum; working practices and policies; organisation of teaching and learning in their schools (Swann and Loxley, 1998)

- methods of assessment (Hutchings, 1997 p 37 in relation to reading ; Swann and Loxley, 1998)

Both Hutchings (1997) and Swann and Loxley (1998) reported that TAs had a better understanding of teacher discourse: 'informally, students also hinted that the course had enabled them to share a technical vocabulary and set of concepts with teachers that made it easier for them to take part in educational discourse' (Swann and Loxley, 1998, p 146).

Swann and Loxley identified gains in TAs' understanding of pupil perspectives: TAs were asked to rate the degree of increase in their knowledge and understanding in the following categories (see Table 4.21 above). Many students believed that a significant increase had occurred in their knowledge and understanding as a result of training (Swann and Loxley, 1998, p 149).

JOB SATISFACTION

The STAC courses provided mixed views about the impact of training on TAs' job satisfaction. On the one hand, 'The great majority of students who completed the Open University's STAC course perceived themselves as having gained considerable new knowledge, understanding, skills and confidence as a result of the training' (Swann and Loxley, 1998 p 157). Swann and Loxley (1998) also reported that the most significant gains in participation by TAs were in areas traditionally reserved for teachers - for example, planning and assessment (particularly informal assessment) and recording (p 153) - while Hutchings (1997) reported that TAs felt an increased sense of belonging to the school.

Against this positive picture is a sense of frustration, as reported by Swann and Loxley (1988), that despite the training that TAs had received, there was little change in the participation of TAs in the teaching and learning processes. Similarly, Hutchings (1997) reported a sense of frustration on the one hand when teachers ignored the TAs' learning, and on the other when the teachers gave over sole responsibility for children's learning. Edwards and Clemson (1997) reported TAs who wanted increased recognition commensurate with their increased skill levels, and also TAs who felt they should be paid more. Overall, TAs also appeared to be dissatisfied about their profession at four levels: deployment; nature of working partnership with teachers; level of participation; and professional status, as will be noted as this commentary progresses.

Increases in both motivation and confidence were reported in all three studies. Edwards and

Table 4.22 Examples of STAC impact on job satisfaction

Studies	Outcome reported: job satisfaction	WoE
Edwards and Clemson	Some felt cheated on pay. Some wanted recognition; Some felt better prepared.	Medium
Hutchings	Greater sense of belonging to an effective team; minority felt frustration with teachers who gave over responsibility for children's learning; or when teachers ignored their learning.	Medium low
Swann and Loxley	Pessimistic picture: little change in their involvement; significant increase in knowledge, skills, adaptability and confidence.	High

Table 4.23 Examples of STAC impacts on motivation, confidence and self-esteem

Studies	Outcome reported: job satisfaction	WoE
Edwards and Clemson	Some STAs wanted recognition of their status of an STA, rather than of welfare assistant, which they felt was an insult to them and their training.	Medium
Hutchings	All STAs felt increase in confidence and many felt able to work with more independence.	Medium low
Swann and Loxley	Significant increase in knowledge, skills, adaptability and confidence. 80% were more confident.	High

Table 4.24 Examples of STAC impacts on teamwork

Studies	Outcome reported: job satisfaction	WoE
Edwards and Clemson	Encouraged them to discuss ideas … more involved in planning. 'Most STAs felt they were used as a partner in the classroom and the teacher trusted them to use their own initiative.'	Medium
Hutchings	Greater sense of belonging to an effective team; involved in the planning of learning activities; some STAs established close relationship based on shared understanding; but some STAs working across many classes were not able to develop close teamwork or plan with teachers in 'sufficient depth'.	Medium low
Swann and Loxley	Sharing of technical vocabulary and concepts with teachers made it easier for TAs to take part in educational discourse (p 146). 'Only just under half at most claimed that it had increased their participation in the teaching and learning process.' (p 155)	High

Clemson's (1997) participants felt that their ability had been stretched and some enrolled for BA with QTS programmes as a result. Swann and Loxley (1998), on the other hand, reported that less than half their sample were more engaged in the teaching / learning process following training than before, despite increases in knowledge, skills and confidence.

Despite such concerns, the STAC had positive impacts on confidence levels: feelings of having made progress (Swann and Loxley, 1998) and increased confidence in 'all aspects of their work in school following the course' (Hutchings, 1997). Since Edwards and Clemson compared nursery nurse (NNEB) and TA training (STA, specialist teaching assistant)), outcomes were presented contrastively, with one STA suggesting that she was better qualified than the nursery nurses, classroom assistants, and volunteers whom she observed in school 'because of the (STA) course's educational orientated nature'.

TEAMWORK

Positive effects on teamwork were reported, notably in Hutchings (1997), whose STAs were able to take part in planning, and who felt a greater sense of belonging to a team. The author seemed to suggest that STAs were more confident and assertive following training, and able to take the initiative and suggest approaches to teachers. Edwards and Clemson (1997) echoed this: 'Most STAs felt that they were used as a partner in the classroom and the teacher trusted them to use their own initiative'. However, Hutchings (1997) also reported TA dissatisfactions in engaging in partnership with teachers. The teachers either delegated too little responsibility, which decreased the opportunities

Table 4.25 Examples of impacts on TAs' use of assessment

Studies	Results: TAs' use of assessment	WoE
Edwards and Clemson	Four STAs became involved with planning, assessment, and had access to teacher's files (e.g. weekly planning files and topic webs).	Medium
Hutchings	STAs were more involved in the assessment of reading, more precise and consistent in what they recorded and reported to the teacher; in assessing, less concerned with whether answers were right or wrong, more interested in how answers arrived at; STAs discussed how they were observing, listening and trying to work from children's ideas.	Medium low
Swann and Loxley	TAs rated increases in • methods, and the use of, recording and assessment (25.2% medium increase, 69.5% high increase) • informally assessing children's needs and development • marking and commenting on children's work • formal assessment and recording • recording children's progress	High

for TAs to utilise their new knowledge and skills; or delegated too much responsibility, which prevented effective TA contributions. While these points highlight the need for the teacher to realise the TA potential after the training, it may indicate increases in professional expectations.

In the more reliable Swann and Loxley study (1998), some gains were reported but with concerns about resulting levels of participation: 'Whilst a large majority of students believed that the course had significantly increased their knowledge, skills, adaptability and confidence, only just under half at most claimed that it had increased their participation in the teaching and learning process' (p 155).

4.4.1.3 How STAC training helps TA to support pupils' learning and engagement (please see feedback letter)

STAC study impacts were reported in the medium to high weight studies, but these were somewhat limited in detail, especially with regard to direct impacts on pupils, for example in terms of achievement or inclusion. The following impacts will be discussed in detail:

• assessment of pupils

• instructional skills

• inclusion

• pupil interaction

The following impacts on TAs were reported but with low frequency and will not form part of the detailed discussion, other than to advise that limited detail was found:

• pupils' academic progress

• TA management of pupil behaviour

• understanding the student better

Direct impacts on pupil progress were very difficult to find. In Edwards and Clemson (1997), TAs reported that they now supported pupils more in maths, language, and other subjects, but nothing was said about pupils' academic progress.

ASSESSMENT OF PUPILS

The STAs' ability to record and report back to the teacher on the children's learning and progress was a particular gain. Four STAs in the Edwards and Clemson (1997) study became involved in planning and assessment. Hutchings (1997) found that STAs were more involved in assessment and were more precise in their recording and reporting to teachers. When assessing, they were more mature in their approach, less concerned with the right and wrong, more interested in the process of arriving at answers.

Swann and Loxley (1998) found that, in recording and assessment, 70% of respondents reported a high increase and 25% a medium increase in their use. As a result, the training may have had a significant effect, with likely impacts on pupils. Again, the evidence for direct impact of the course is based on perceptions, not on baseline measures nor longitudinal study of outcomes.

Table 4.26 Examples of impacts on instructional skills

Studies	Results: instructional skills	WoE
Edwards and Clemson	Head teachers saw STA qualification as 'more relevant to their teaching, learning and curriculum needs than that of the NNEB'. *All class teachers believed their classroom assistant had improved in their ability to support children due to the STA training.* Teachers from both key stages felt the *STA course had taught their assistant how to apply basic skills,* and made them aware of the specific outcomes expected from activities and how to develop an activity	Medium
Hutchings	Able to take part in the planning of learning activities; able to work with more independence in following a teacher's plans, take the initiative, make suggestions to the teacher; *listening to children read, increase in use of exploratory and practical approaches; some STAs taking greater responsibility for special needs pupils, especially in relation to reading, working from IEPs planned by class teachers and SENCos.*	Medium low
Swann and Loxley	Many TAs 'saw a growth in confidence in the classroom, as a critical effect of the course'. The tasks they undertake as classroom assistants saw a 36.3% medium increase, 55.5% high increase in the following: • planning activities • supporting children in mathematics, English, Science • making resources • working with the whole class • working with groups The largest perceived increases in the participation were in planning, assessment and recording (p 153). A significant proportion of these students reported that there had been no change in their involvement in many aspects of the teaching and learning process in their school (p 157).	High

INSTRUCTIONAL SKILLS

The STAC course seems to have had an impact on how STAs work with children, but there was often very little about the impact on children's development or progress. In her conclusion, Hutchings (1997) made the claim that it was 'clear that training and development of classroom assistant can make a difference to the quality of learning in KS1 classrooms' (p 39). However, the improvements in quality were not explained or described. She also claimed that theories of how children learn were influencing TA practice, citing one STA a year after the course, recalling inputs on Vygotsky and Piaget while trying to understand a child's thinking.

'The changes in the ways in which STAs work with children was a dominant theme within all the interviews' (Hutchings, 1997, p 36). Hutchings reported changes in practice as perceived by her 16 interviewees, for example:

• an increase 'in the use of exploratory and practical approaches to maths' teaching (p 37)

• working with more independence in following a teacher's plans

• more informed and reflective approaches to the teaching of reading

• greater involvement in the classroom, including in the setting up of play environments

The author concludes by saying that it was clear that training can make a positive difference to the quality of learning in the first years of primary school.

Headteachers in Edwards and Clemson (1997) felt that the STAC offered more relevant training about teaching and curriculum than the NNEB course. Class teachers believed that TAs' ability to support pupils' learning had improved: for example, how to apply basic skills, how to develop activities, and how to provide visual or practical support to the children. They seemed to be involved in activities that contributed directly to children's learning:

• organising activities with children from planning to delivery

• producing their own practical activities (e.g. games) and even worksheets

Swann and Loxley (1998) investigated whether there had been changes in the involvement of STA students in the teaching and learning process, including those

Table 4.27 Examples of impacts on inclusion of pupils

Studies	Results: inclusion of pupils	WoE
Edwards and Clemson	Development of early social skills and the promotion of health education. This is relevant to inclusion, but not clear. Some STAs were supporting bilingual children. This practice could have enabled the pupil to access the educational experiences around him or her.	Medium
Hutchings	Some STAs taking greater responsibility for special needs pupils, especially in relation to reading, working from IEPs planned by class teachers and SENCOs	Medium low
Swann and Loxley	TAs were asked to rate the increase in their knowledge and understanding (see Table 5, page 148): • The different learning needs of individual pupils (20.4% medium increase, 71.5% high increase) 'In the questionnaire, we asked students to rate the 'degree of involvement classroom teachers provided you with before and after undertaking the course' in 23 areas of the teaching and learning process' (p 152). These areas are as follows (see tables 8/9, pp 153, 155): • discussing with parents • providing information/advice to parents or caregivers • Inset • passing on information to teachers about a child's family situation	High

Table 4.28 Examples of impacts on pupil interaction

Studies	Results: inclusion of pupils	WoE
Edwards and Clemson	Headteachers thought the NNEB training prepared assistants well for the care of children within school, and aiding with the development of early social skills and the promotion of health education.	Medium
Hutchings	Understanding of how children learn, particular subjects such as English and mathematics, and interaction with children all enhanced, with examples given as to the impact of this.	Medium low
Swann and Loxley	'In the questionnaire, we asked students to rate the 'degree of involvement classroom teachers provided you with before and after undertaking the course' in 23 areas of the teaching and learning process' (p 152). These areas are as follows (see tables 8/9, pp 153, 155): • working with the whole class • working with groups • intervening in incidents involving racist, sexist and other abuse	High

listed in Table 4.26. While TAs were more confident in doing these things, only just under half reported increases in participation. Discussion of instructional skills and their development was limited to the availability of opportunities after the course, although STAs reported a general increase in their skills levels.

INCLUSION

With regard to inclusion, detail was often lacking in the studies. Teachers in Edwards and Clemson (1997) believed that the NNEB programme catered well for the care of children within school, aiding with the development of early social skills and motor development, but little was said about the STAC course and inclusion.

According to Hutchings (1997), some STAs took greater responsibility, particularly in support of reading, for special needs pupils working from IEPs. Swann and Loxley (1998), on the other hand,

reported some gains in knowledge and understanding of different learning needs of individual pupils (72% reporting a high increase).

PUPIL INTERACTION

There was little discussion of promoting pupil interaction in the studies, although Edwards and Clemson (1997) mentioned the development of early social skills but this resulted from NNEB training rather than the STAC course.

Behaviour management was mentioned in two of the studies (Hutchings, 1997; Swann and Loxley, 1998), but impacts claimed were often of an indirect nature. For example, Hutchings reported that increased subject knowledge and confidence had an impact on what STAs believed to be possible with children, so they were quicker to appreciate implications for their work with children. This may have an indirect impact on pupil behaviour, but the evidence of impact from the training is far from conclusive. In relation to STAC training and managing pupil behaviour, Swann and Loxley (1998) reported that there was a small increase in STA participation in behaviour management following the course (30% reporting an increase) and 13% of TAs reported an increase in dealing with incidents of abuse (racist, sexist or other).

The great majority of TAs who took the OU STAC course believed that they had gained more knowledge, understanding, confidence and skills (Swann and Loxley, 1998, p 157). This general perception was reported in all three studies, but the quality of the studies in terms of structure, methods and reporting vary quite markedly. Nevertheless, the most robust of the studies (Swann and Loxley, 1998) arrives at the positive evaluation of the impact of STAC. Consequently, we can be confident about the general direction and value of this programme.

Taken together, the studies provide evidence that STA courses are successful in impacting on TA development and on their work with pupils, but there is no evidence for direct impact on the achievements of pupils. In addition, the extent of the impact of the programme depends on other factors than the training events or programmes, notably the readiness of teachers to include TAs in teaching and learning processes.

LOW-MEDIUM WOE STUDY: STAC COURSE EVALUATION (RYALL AND GODDARD, 2003)

While the focus of Ryall and Goddard (2003) is relevant, the article lacks crucial information on research design (for example, the number of participants) and methods of analysis. As a result, the reader has little idea how the research findings are generated so the study is considered low-medium weight of evidence. Despite this, the authors reported findings that confirmed the value of the STAC programme:

- increased levels of understanding and knowledge leading to greater confidence

- increased sense of belonging with increased access to the teaching and learning processes in the schools

- greater understanding 'about the 'how' of children's learning', being more process oriented than prior to training, when they would focus more on the final outcome (product)

- improvement in the assessing skills of STAs, which enabled more informed feedback to teachers

- more effective working partnerships between STAs and class teachers following training (from mentor reports)

Some frustration was also reported in Ryall and Goddard (2003), highlighting the need for teachers to be given training in team leadership, although whether this was an impact of the training is not clear.

4.4.2 Findings from the UK studies of foundation degree and BA programmes

Three university programme evaluations found their way into the final set of studies (Edmond, 2003; O'Keefe and Tait, 2004; Terrell et al., 2004). Only one (O'Keefe and Tait, 2004), however, achieved higher than a low WoE. This focuses on an opportunity available to the emerging group of staff called 'Senior Practitioners in Early Childhood Studies and Practice'. Foundation degrees were introduced in the UK in 2001, through a DfES initiative. The O'Keefe and Tait study (2004) has a robust design but the findings relate to a specific audience.

The other two studies (low and low-medium) are informative, but there are weaknesses in each so none achieves high weight of evidence. For example, Edmond (2003) is retrospective in nature and gives only a small amount of space to the discussion of impact. In addition, the research design and methods are only lightly sketched. Terrell et al. (2004) are unclear about the numbers participating and the ways in which data is collected and analysed, although it should be noted that this is a conference paper. Terrell et al. allow TA voices to be presented so there are a lot of personal responses on which we can call. However, it is impossible to know how representative any of these are.

As a result of such concerns, none of the studies can be accepted without equivocation, although they do provide some tentative evidence about the impacts of newly introduced degrees.

Unfortunately, only one study achieved medium level of WoE (O'Keefe and Tait, 2004) and this was medium-low. The results of this study are described below.

Table 4.29 Foundation Degree/BA Studies

Study	Programme Evaluated	Sample	Weight of evidence
O'Keefe and Tait (2004)	FdA Early Years	9 in phase 117 in phase 2	Medium low
Terrell et al. (2004)	The BA (Honours) Learning, Technology and Research	Unclear; up to 300	Low
Edmond (2003)	BA Professional Education Studies (BAPES) for TAs	21	Low medium

4.4.2.1 What does the training do for the TAs?

Impacts on TAs are discussed in relation to job satisfaction, reflection, subject knowledge.

JOB SATISFACTION

O'Keefe and Tait (2004, p 37) claim that their data reveal 'an element of discontent as a result of the practitioners' increased awareness and understanding of the needs of young children and their families.' There was some sense that classroom assistants were being trained to such a degree that they were then left frustrated with what they were being asked to do. Sometimes, the frustration derived from a feeling that they were capable of more; at other times, it stemmed from a belief that what they were doing was anti-educational.

'Four respondents viewed their work negatively..."I just want to get out"...don't feel viewed as professionals, sometimes feel they can do a better job than the teachers' (p 32).

'The focus group indicated that their job title and role had changed but that their pay and conditions had not. Comparison was made between their role and that of a newly qualified teacher, but again there was no parity on pay or conditions.'

REFLECTION

Engagement in reflective and critical thinking was an outcome of the programme. This led to more awareness of professional strengths and weaknesses, as well as deeper understanding. 'They were becoming increasingly critical and reflective of their own practice and what is going on around them' (p 36). The course provides significant opportunities for reflection, for abstract thought, and time for TAs to review their roles in all their complexity. The authors concluded that students found reflection difficult and challenging at times, but also positive and enlightening (p 36).

One student found the process useful as a way of reviewing the wallpaper of working life (daily classroom events). Most agreed (p 36) that keeping a reflective diary helped them become more aware of professional strengths and weaknesses. Following training they:

• have deeper understanding as to why they carry out specific tasks

• had greater professional knowledge which they believe made positive impact on practice

• plan and implement learning opportunities more meaningfully

O'Keefe and Tait (2004) argue that the critical thinking in which early practitioners now engage highlights the degree of personal and professional motivation that these practitioners display.

SUBJECT KNOWLEDGE

The increased knowledge and understanding were in the following areas:

• child development and how this relates to practice

• how children (and adults) learn

• the purpose and benefit of learning opportunities provided for children

• social and political factors which impact on services and provision for children

• equality of opportunity issues and their affect on children (O'Keefe and Tait, 2004, pp 35, 36, 38)

O'Keefe and Tait (p 31) argued that 'The study indicated overwhelmingly that the present cohort or 'unique practitioners' have the skills and ability to rise to the challenge of a higher education qualification. Indeed, the authors posed a challenge to the HEI/CPD sectors: 'Is the higher education sector and Continuing Professional Development (CPD) within their own organizations sufficiently equipped to cope with a multi-agency/multi-skilled practitioner with sound pedagogic understanding of their role in relation to young children?'

4.4.2.2 How FdA/BA programmes help TAs to support pupils' learning and engagement

Under this heading, reviewers found evidence of development in instructional skills, understanding of pupils better and arguably TAs' use of assessment.

Medium WoE study (O'Keefe and Tait, 2004): again, it was not possible to detect direct impacts on pupils' academic progress. Impacts were reported in relation to instructional skills, understanding students better, inclusion and TA use of assessment.

INSTRUCTIONAL SKILLS

16 out of 17 respondents felt that the development of greater knowledge was having an impact on their practice (O'Keefe and Tait, 2004, p 35).

The degree to which training had impacted on instructional skills was not made clear but TAs were heavily involved in direct instruction: 'It became evident, largely through anecdotal data, that the majority of the unique practitioners undertook whole class teaching, small group teaching … In addition to these responsibilities, many of the practitioners also indicated that they had involvement with nurture and thinking skills groups as well as literacy (in some schools they were responsible for Additional Literacy Support (ALS) and Extra Literacy Support (ELS) reading groups), numeracy and ICT initiatives' (p 35).

UNDERSTANDING STUDENTS BETTER

The authors report increased knowledge and understanding of child development and the relationship to practice; increased understanding of how children learn; and increased knowledge and understanding of issues related to equality of opportunity and how these affect children.

'The data reveal common threads of questioning and an element of discontent as a result of the practitioners' increased awareness and understanding of the needs of young children and their families.' (O'Keefe, 2004, p 37).

TAS' USE OF ASSESSMENT

There was possibly some indirect evidence of the development of assessment skills but not explicitly as with the STAC programmes. O'Keefe and Tait did not mention this specifically, although development may be inferred from the claim (p 36) that early years practitioners had 'increased knowledge and understanding about the purpose and benefit of learning opportunities provided for children and how to plan and implement these more meaningfully'. This might suggest some skills in formative assessment.

LOW WOE STUDIES

The BA (Honours) Learning, Technology and Research (Terrell et al., 2004) is an online programme launched in 2003, that recruited 300 students in its first cohort. Edmond (2003), on the other hand, evaluated the impact of school-based learning within a BA for TAs (some of whom would use the degree for the purpose of progressing to a programme leading to qualified teacher status, QTS).

These programmes appeared to have a considerable influence on TAs, in particular on the following:

• job satisfaction (sometimes negatively so)

• team work (and relationships with teachers)

• engagement in reflection

• knowledge and understanding

In two online surveys (December 2003; 2004), Terrell et al. (2004) reported that 77%% felt more confident in their role. Edmond (2003) highlighted the frustration of some TAs who, given up-to-date guidance, then went back into school to find that recommended practice was not being implemented.

Terrell et al. (2004) claimed that communication skills for TAs improved leading to better communication with pupils, and with colleagues. One respondent even claimed that the pupils saw him/her as an arbitrator between teacher and pupils, a mediator to clarify roles and expectations and someone to 'take the stress out of the situation, empowering the pupils to make their own decisions'.

While the evidence of impact is not as strong as in STAC courses, the low WoE studies claim that FdA/BA programmes are having an impact especially on confidence, job satisfaction and reflection. Little information could be found about impact on pupils' learning. Only Terrell et al. (2004) offer any insights and these were entirely perceptual. They report that improved understanding of pupil learning was a commonly expressed outcome by their students, but no advice could be found about the ways in which learning had improved and how this was measured.

Edmond (2003) had set out to evaluate the role of experience in the teaching of a BA for teaching assistants. She found that the workplace has limitations as a developer of good practice, due to constraints on teachers' time, variations in the level of support available and the availability of teachers to work with TAs.

Despite this, there was a feeling that instructional skills had developed during the course of the programme.

Both studies suggested that programmes led to better understanding of pupils. A tutor in Edmond (2003, p 120) claimed that assignments gave evidence that TAs were 'much more able and experienced in analysing children's responses'. Terrell et al. (2004) gave voice to TAs who had learned more about pupils, making bold claims about impact: 'an improved understanding of pupils' learning and behaviour…clearly impacting on pupils'. The reliability of the claims is not discussed, however, which is a weakness throughout the study.

4.4.3 Findings from the HLTA initiative in England

There was only study of this initiative in the in-depth review (Pye Tait, 2006), which was medium WoE.

Table 4.30 HLTSA study

Study	Programme Evaluated	Sample	Weight of Evidence
Pye Tait (2006)	HLTA training	Total of 337: assessment only (167), 50-day training (95), pilot route (70), FdA pilot (5)	Medium

Higher level teaching assistant (HLTA) status was introduced in England in 2003, to assist with the implementation of workforce remodelling (Department for Education and Skills, 2003b). To achieve the status, 31 standards have to be met and evidenced. The Training and Development Agency for Schools (TDA) introduced a pilot in 2003 (part training / part demonstration of prior learning), followed by two opportunities, the first being assessment only, and the second a 50-day training programme to prepare candidates to meet the standards. One evaluation found its way into the final set of studies (Pye Tait, 2006) and this comprehensive study sought feedback on all three opportunities (pilot, assessment only and the 50-day route) offered by a range of providers (HEIs, LEAs, etc.), often working in partnership.

4.4.3.1 What does the training do for the TAs?

Impacts will be discussed under the following headings: confidence, teamwork, subject knowledge and reflection.

CONFIDENCE

As a result of training, HLTA candidates on all routes reported an increase in their skills levels, their knowledge and their confidence. ICT training and E-learning elements were generally appreciated by candidates, helping to develop their IT proficiency and confidence. Those who completed the e-learning felt it led to:

1. learning new skills

2. improving their confidence

TEAMWORK

There was little in the study about teamwork or understanding the teacher better. 50% of assessment-only HLTA candidates had worked with a mentor but generally viewed the process less positively than those on other routes, believing they could do the course without a mentor. Pilot route (over 50%) and 50-day training candidates (73%) welcomed the support of a mentor. Assessment-only and 50-day candidates were not satisfied with the amount of support and practical advice offered by training providers.

SUBJECT KNOWLEDGE

On subject knowledge, perceived benefits for the 95 50-day trainees included:

- reinforcement of existing knowledge

- highlighting of the role already performed by candidates

- learning from visiting a contrasting school (which offered ideas and inspiration)

Five candidates applied for HLTA recognition, while studying for a foundation degree. When they were asked about the impact of undertaking the HLTA course while studying for a foundation degree, candidates were able to put forward a number of benefits:

- FdA helped prepare the HLTA portfolio.

- FdA prepared them for critical reflection and review.

- Evidence was transferable between each course.

- Evidencing the 31 Standards helped HLTAs to increase awareness of how they were performing their jobs (Pye Tait, 2006, p 52).

REFLECTION

Some candidates who had done, or were doing, a foundation degree 'did not believe that their knowledge, confidence or skills as a teaching assistant had been particularly improved, due to the fact that much of the required information simply needed to be transferred from their foundation degree files into their HLTA portfolio' (Pye Tait, 2006, p 52). So, there was little additional evidence of impact from the HLTA training on reflection, although some candidates reported that the FdA had prepared them for critical reflection and review.

Some candidates believed that the foundation degree had made a difference to the HLTA programme in terms of increasing their general awareness about learning theories and teaching styles. However, it was felt that there should be more of a parallel between the two as candidates believed the foundation degree only assisted in the writing up of the HLTA portfolio. (ibid)

4.4.3.2 How HLTA programmes help TAs to support pupils' learning and engagement

Three principal impact categories were identified: instructional skills, behaviour management and inclusion, but not all positively.

INSTRUCTIONAL SKILLS

Table 4.31 USA studies

Study	Programme evaluated	Sample	WoE
Giangreco et al. (2003a)	Paraeducator training materials to facilitate inclusive education: initial field-test data, paraeducator entry level course, challenging behaviours course.	For preliminary course, 114 paraeducators in regular format, 99 in alternative format.	Medium
Gittman and Berger (1997)	Modules towards a degree	26 paraprofessionals	Medium
Romano (1999)	Prevention training of paraprofessionals in schools (alcohol and other drugs): LEA / local district award	212 over four programmes of training	Medium
Forbush and Morgan (2004)	Live internet courses to teachers and paraprofessionals in Utah: Utah State University award	33 paraprofessionals, 18 teachers	Low
Sack and McLean (1997)	Training Communication Partners: The New Challenge for Communication Disorder Professionals Supporting Persons with Severe Disabilities. On page 154, the paper mentions a 'certification program, for paraprofessionals'. From this, we conclude this is award-bearing.	415 paraprofessionals	Low
Blalock et al. (1992)	A school / district partnership in paraprofessional training: public schools in the area working with HEI to offer training of paraprofessionals	Numbers in the evaluation not made clear	Low-medium

Training activities that focused on instructional skills were generally well evaluated (e.g. the lesson planning activity described on page 30), but very little is reported on specific instructional skills and their potential for use with pupils. As a result of training, HLTA candidates on all routes reported an increase in their skills levels: 'This course enabled me to show myself and others my potential' (Pye Tait, 2006, p 32). However, reporting was general in nature.

BEHAVIOUR MANAGEMENT

Many of the providers were able to provide useful ideas in terms of new teaching methods, learning styles and classroom resources but with little mention of behaviour management. There were, however, some negative evaluations. 50-day route candidates claimed that the training offered was not tailored enough to their needs, with 25% reporting that it was too focused on primary rather than secondary. Others commented that it was too basic and should have considered areas such as behaviour management much more.

INCLUSION

On SEN, the visit proved useful for some as it gave the TAs opportunities to experience schools with different proportions of children with SEN, but little additional information was offered.

In terms of our review, the impacts from the HLTA programme were quite limited. While the HLTA training may have prepared TAs for whole class teaching, the extent to which it impacted on their

TA skills for behaviour management or inclusion appeared to be quite limited. This national programme appeared to have fewer impacts than identified for the STAC programmes.

4.4.4 Findings from the US studies: medium WoE studies

Six studies were found but only three of medium weight (Giangreco et al. 2003a; Gittman and Berger, 1997; Romano, 1999). There is a long tradition of training programmes in the US, with university awards and district awards, with partnership programmes also in evidence. The Review Group, however, did not find a set of studies relating to one particular form of training as with the STAC courses in England. The impression was of a more disparate form of provision, summarised in Table 4.31.

The US studies show greater variety in terms of the training focus and length. For instance, the Giangreco et al. (2003a) study focused on training of TAs for special education classes. The Romano (1999) paper reported on a prevention training programme for the reduction of student alcohol and other drug abuse. Gittman and Berger (1997) reported on a short course which tried to improve generic skills of paraprofessionals.

4.4.4.1 What does the training do for the TAs?

Principal impacts reported were in relation to job satisfaction; motivation, confidence and self-esteem; teamwork; and subject knowledge.

Table 4.32 Examples of impacts on job satisfaction

Studies	Results: job satisfaction	WoE
Giangreco et al. (2003a)	Several paraeducators found courses 'affirming' of their value and contributions to the education of children with and without disabilities. *The readings and activities highlighted both positive aspects of the paraeducators' jobs as well as exposed problems.*	Medium
Gittman and Berger (1997)	*Paraprofessionals' unanimously believed that courses helped them become more professional.*	Medium
Romano (1999)	The evaluation of the SWB training showed that paraprofessionals were very satisfied with the training and *they increased their self-efficacy*. The SWB training provides one vehicle through which paraprofessionals can increase their skills in enhancing youth development and *feel appreciated as valued members* of the educational enterprise through a greater sense of self-efficacy (pp 384-385).	Medium

Table 4.33 Examples of impacts on motivation, confidence and self-esteem

Studies	Results: motivation, confidence and self-esteem	WoE
Giangreco et al. (2003a)	The impact of the training left some paraeducators *feeling energized* to act: 'It inspired me to want to make changes in the way I work with my student .' The only downside to this enthusiasm was the often written lament: *'Too bad the general educators, special educators and other staff didn't take this course!'*	Medium
Gittman and Berger (1997)	Positive comments from teachers and administrators included *increased confidence* (1); paraprofessionals' comments on course learning refer to feeling confident and creating positive teacher-student relationships, and indicated considering going on to a degree programme and then teacher training as a result of the course.	Medium
Romano (1999)	Paraprofessional school personnel may be *confident* in their own abilities to enhance student well-being as a result of the training they received, but given their position as non-certified personnel, they are *less likely to believe that their behaviours will bring about change in their school* (pp 384-385).	Medium

JOB SATISFACTION

The courses provided mainly positive views about the impact of training on TAs' job satisfaction. Positive findings were related to the better appreciation of their roles. For some TAs, this was a result of the greater understanding of their role, which made TAs more comfortable with their profession (Giangreco et al., 2003a). TAs also reported the development of a sense of professionalism (Gittman and Berger, 1997) and self efficacy as a result of developing skills (Romano, 1999).

MOTIVATION, CONFIDENCE AND SELF-ESTEEM

The studies by Giangreco et al. (2003a) and Gittman and Berger (1997) clearly reported strong increases in TAs' confidence about their profession.

In addition to the feelings of confidence, the training inspired paraeducators to make changes in the way that they work with students and they were eager to explore more on other relevant topics (Giangreco et al., 2003a).

While Romano (1999) indicates that training might have an impact on TAs' confidence in their abilities to support student wellbeing, their professional status as non-certified professionals may lead to uncertainty about the degree to which they can have an influence. The author suggested that TAs believed that the impact of their behaviour was not powerful enough to make a change in their schools.

TEAMWORK

Two of the studies pointed to gains in teamwork awareness, not necessarily positively about the ways paraprofessionals had to work with others (Giangreco et al., 2003a; Gittman and Berger, 1997). The extent of the influence of the programmes on the development of teaming skills was not clear.

SUBJECT KNOWLEDGE

The US papers provided clear indications of the impact of training on TAs' subject knowledge. For instance, they believed that they improved their skills and knowledge in enhancing student wellbeing (Romano, 1999). In two studies, knowledge was gained on the specific needs of pupils with special

Table 4.34 Examples of impacts on teamwork

Studies	Results: teamwork	WoE
Giangreco et al. (2003a)	While some paraeducators wrote things such as, "We have outstanding communication and wonderful teams" others shared different realizations. *"I learned that I am not part of a team"*. *"The most important thing I learned from this unit was that it is not my job alone to be teaching any special needs child. It has become teamwork with my special educator and my input is very important."*	Medium
Gittman and Berger (1997)	*25% of teachers and administrators rated paraprofessionals as better or much better in their knowledge and understanding of student-peer relationships and interacting with parents.* *Positive comments from teachers and administrators included increased initiative in assuming responsibility (2) and increased attention to students' needs (2).*	Medium
Romano (1999)	N/A	Medium

Table 4.35 Examples of impacts on subject knowledge

Studies	Results: teamwork	WoE
Giangreco et al. (2003a)	Generally, the narrative responses of instructors were positive, with one instructor writing: 'They learned a lot. They are definitely better educated and more knowledgeable than before.' 'Paraeducators who took the courses gained new knowledge, perspectives…that had direct application in their work assisting in the provision of special education for students with disabilities in inclusive schools.'	Medium
Gittman and Berger (1997)	For every specified criterion, the paraprofessionals' understanding was perceived by the teachers and administrators to have improved; knowledge/understanding of curriculum materials; knowledge and understanding of student-peer relationships and interacting with parents; positive comments from teachers and administrators included increased understanding (5). Paraprofessionals' perceptions: 15 more aware of strategies/procedures; 12 said they understood children better; possible link between the course and TAs' developing awareness of strategies and procedures and enhanced understanding of children.	Medium
Romano (1999)	Participants following the ESW training believed that they learned new knowledge and their skills.	Medium

needs and disabilities (Giangreco et al. 2003a; Gittman and Berger, 1997). This enabled TAs to better empathise with the diversity in pupils' needs and allowed them to deal more effectively with pupils at a personal level as well as being more patient with them (Gittman and Berger, 1997). The skill of being responsive to students' physical and psychological needs and supporting these needs with appropriate strategies was recognised by 85% of teachers and administrators (Gittman and Berger, 1997).

4.4.4.2 How US programmes help TAs to support pupils' learning and engagement

In the US studies, there was little emphasis on the direct measurement of TA training and pupils' academic progress, but impacts were reported in instructional skills, understanding students,

behaviour management, and inclusion.

INSTRUCTIONAL SKILLS

The changes in TAs' instructional skills for supporting pupils in classrooms appeared in all the US studies. Overall, the changes mainly were related to the development of knowledge, skills (Giangreco et al., 2003a; Gittman and Berger, 1997; Romano, 1999) and using new strategies in supporting pupils (Giangreco et al., 2003a; Gittman and Berger, 1997). In the study by Giangreco et al. (2003, p 21), paraeducators described strategies that included asking questions to teachers, collecting data, encouraging social interactions with peers, teaching skills and encouraging positive behaviour. Paraeducators regarded the skills they learned as being very useful and having a direct application in their work in supporting students with disabilities

Table 4.36 Examples of impacts on instructional skills

Studies	Results: teamwork	WoE
Giangreco et al. (2003a)	Paraeducators listed a variety of helpful strategies…teaching skills. 'This [strategy] will be very useful to me. Can't wait to use it!' 'Paraeducators who took the courses gained … skills that had direct application in their work assisting in the provision of special education for students with disabilities in inclusive schools.'	Medium
Gittman and Berger (1997)	85% of teachers and administrators rated paraprofessionals as better or much better in appropriate methods used with children. Positive comments from teachers and administrators included the application of newly-learned strategies in the classroom increased attention to students' needs (2). Paraprofessionals' comments on course learning: teaching and learning styles 76%; increasing on-task behaviour 48%.	Medium
Romano (1999)	They recognise their own improved skills to enhance student wellbeing; skills related to enhancing student wellbeing.	Medium

Table 4.37 Examples of impacts on understanding student perspectives

Studies	Results: teamwork	WoE
Giangreco et al. (2003a)	Participant feedback (pp 22-24): 'In response to 'What was the most important or useful thing that you learned from this unit?' *student-family perspective*, was one category of response. 'Secondly, paraeducators reported that the course helped them to consider the perspectives of students and families by "being aware of students' feelings" and to "look at the person before the disability." As one paraeducator wrote, "This opened my eyes to my own prejudices toward families who are economically disadvantaged…characteristics of students with disabilities."'	Medium
Gittman and Berger (1997)	85% of teachers and administrators rated paraprofessionals as better or much better in being: responsive to students' physical needs; responsive to students' psychological needs; appropriate methods used with children; teacher student relationships. 80% of teachers and administrators rated paraprofessionals as better or much better on: motivating students; behaviour management; student motivation. 25% of teachers and administrators rated paraprofessionals as better or much better in their knowledge and understanding of student-peer relationships. Paraprofessionals' perceptions: 12 said they understood children better; six said they were more patient with children. Conclusion: enhanced understanding of children	Medium
Romano (1999)	Little on understanding the student better but skills *related to enhancing student well-being were an impact*.	Medium

(ibid., p 25).

Teachers reported that TAs were more prepared to assume responsibility (Gittman and Berger, 1997). TAs also reported improvements in the way that they communicate with pupils in a comprehensive way. In the study by Gittman and Berger (1997), TAs were able to describe specific ways that helped them to better communicate with pupils, such as modulating their tone of voice, kneeling to the children's level, encouraging peer-interaction and using feedback. Such informative detail is often lacking in these studies.

Gittman and Berger (1997) reported similar links between the training experience and the development of new strategies and enhanced understanding of children. The majority of teachers and administrators (85%) rated paraprofessionals as better or much better in using appropriate methods with children, having appropriate skills, knowledge and understanding of curriculum materials.

Furthermore, in this study, teachers and administrators noticed improvements in the following TA skills:

• increased attention to students' needs (75%)

Table 4.38 Examples of impacts on behaviour management

Studies	Results: teamwork	WoE
Giangreco et al. (2003a)	Participant feedback (pages 22-24): 'I learned that my behavior and the way I interact with my students could have an impact on his or her actions and reactions in the classroom.' 'Paraeducators listed a variety of strategies they found helpful such as how to: … encourage social interactions with peers, teach skills, and encourage positive student behaviors. (pages 22-24)	Medium
Gittman and Berger (1997)	80% of teachers and administrators rated paraprofessionals as better or much better on: student on-task behaviour; … dealing with disruptive behaviour; motivating students; behaviour management; student motivation; Paraprofessionals' perceptions: • unanimously believed that participating in the teacher education courses had taught them to understand and respond to children's behaviour in the classroom, lunchroom or playground. • 15 more aware of strategies and procedures; • 12 said they understood children better; • Six said they were more patient with children. • Six gave examples as to how their behaviour had changed working with children, including downplaying misbehaviour, setting rules early, helping children think through behaviour, modulating tone of voice, kneeling to children's level, giving children opportunity to settle their own disputes, providing alternative choices, encouraging peer interaction, using praise, assigning jobs, allowing independence, using star charts, personal sharing.	Medium
Romano (1999)	Indirect evidence: improved skills to enhance student wellbeing, helping students to recover following drug abuse. These employees often come to their positions with relatively little formal training and have limited professional, in-service opportunities once they are in their positions. Further, the nature of their positions often puts them in close and regular contact with students…	Medium

• responding better to pupil management (e.g. of their on-task behaviour) (80%)

• student motivation (52%)

UNDERSTANDING STUDENTS

TAs have not only developed their knowledge of pupils' specific needs, but also become aware of strategies for including them, such as positive behaviour management, how not to hover over them (Giangreco et al., 2003a), and engaging with parents (Gittman and Berger, 1997). Their understanding of pupils and their circumstances were thought to have improved (as illustrated in Table 4.37).

BEHAVIOUR MANAGEMENT

There were significant changes in the ways that TAs supported pupil behaviour.

In Gittman and Berger's (1997) TAs became more skilful in responding to pupils' in-class behaviour or behaviour in lunchrooms or playgrounds. 80 % of administrators and teachers stated the TAs appeared to be better at managing pupil on-task

behaviour, and managing pupils' in-class behaviour, including disruptive behaviour. These areas were clearly outlined in the course content and were targeted to improve. Similarly, Romano (1999) reported improvements in TAs' skills and abilities for improving student well-being, which was a crucial aim of the training offered. Giangreco et al. (2003a) identified awareness of development in this area.

INCLUSION

TAs in the study by Giangreco et al. (2003a) claimed to gain new information on how to best help a student without hovering, by having a plan from the teacher, and dealing with confidentiality and functions of behaviour. Having gained a wider perspective of what their roles involve, TAs reported becoming more confident about their job. 'Paraeducators who took the courses gained new knowledge, perspectives, and skills that had direct application in their work assisting in the provision of special education for students with disabilities in inclusive schools' (p 25). Gittman and Berger's trainees were credited with being more responsive to students' needs. Romano's study (1999) focused on rehabilitating students following drug and alcohol

Table 4.39 Examples of impacts on inclusion

Studies	Results: teamwork	WoE
Giangreco et al. (2003a)	First, several paraeducators commented that the courses were 'affirming' of their value and contributions to the education of children with and without disabilities; in addition, paraeducators consistently commented that they gained new information and perspectives on the importance of each of the topics presented in the units: 'how best to help a student without hovering,' 'confidentiality', 'characteristics of students with disabilities'. A paraeducator wrote that she learned 'ways to include the student in regular class activities'.	Medium
Gittman and Berger (1997)	85% of teachers and administrators rated paraprofessionals as better or much better in being: responsive to students' physical needs; responsive to students' psychological needs; appropriate methods used with children; appropriate skills; … motivating students; … student motivation. Positive comments from teachers and administrators included increased attention to students' needs (2).	Medium
Romano (1999)	They recognise their own improved skills to enhance student wellbeing but are less confident that engaging in these behaviours will bring about school change to enhance student wellbeing.	Medium

Table 4.40 Miscellaneous low WoE studies

Study	Programme evaluated	Sample	WoE
Broadbent and Burgess (2003)	Professional Development Certificate Programme (PDCP) for Special Needs Teacher Assistants (SNTAs)	Maximum of 27	Low
Wilkins (2004)	College of Teachers programmes COES awards ACOT membership	School A Primary, 15 support staff (also 11 in a nursery school)	Low

abuse so had an inclusion agenda by securing their wellbeing.

4.4.5 Low WoE US studies

The main reason why the Blalock et al. (1992), Forbush and Morgan (2004) and Sack and McLean (1997) papers were rated as low or low-medium relates to the lack of information about the data-gathering tools, analysis procedures and questions relating to validity and reliability. Positive outcomes were reported in each. Sack and McLean (1997) focused on the training specifically aiming to improve communication skills for severely disabled pupils. Training provided varying credits for TAs which helped them either to meet the IDEA standards (Forbush and Morgan, 2004), or to continue further education to become teachers (Blalock et al., 1992).

In Blalock et al. (1992, pp 34-36), TAs suggested that training influenced them in the following ways:

- I put myself in the other person's place before I judge.

- The training I've had so far has made me more observant in the classroom.

- They have helped understand that it is ok to make mistakes and to learn from my mistakes.

From Forbush and Morgan (2004), it appears that training helped TAs to utilise their skills and knowledge in developing constructive working partnerships with teachers. Overall, the training affected TAs' teamwork skills at two levels. First of all, they felt that they had an increased understanding of what teachers were trying to achieve and their expectations. Secondly, they also felt more confident about making more meaningful contributions as a result of their increased professional knowledge and felt able to engage in professional discourses with teachers. TAs claimed to use feedback more positively and constructively with pupils, by starting with positives and then providing corrective feedback, which was developed as a result of the training they received (Forbush and Morgan, 2004).

Sack and McLean (1997) do not provide detailed information on the development of TAs' instructional skills and how TAs work with pupils, but they do indicate improvements in TAs' skills in supporting pupils with communication disorders.

4.4.6 Miscellaneous low WoE studies

Two other studies met the in-depth criteria, both of which were deemed to have low WoE. These were Broadbent and Burgess (2003) based in Australia, and Wilkins (2004) in England.

These studies added little to our understanding of the effects of training on TAs and their classroom practice, although in each case the authors claimed that the programmes had been effective and had helped to develop skills and understandings 'relevant to the enhancement and promotion of more effective and inclusive classrooms' (Broadbent and Burgess, 2003). Growth of self-esteem and confidence, better teaming skills and greater reflective practice were mentioned by Wilkins (2004) as a result of school-based practice development groups, an initiative that might be explored as model of professional development for TAs.

4.5 In-depth review: quality-assurance results

Application of in-depth inclusion criteria

Pairs of reviewers conducted in-depth review screenings and compared results, which achieved a high degree of agreement on all criteria. Many studies failed to include unequivocal guidance on the research methods used, particularly sampling procedures, leading to some uncertainty and discussion between reviewers about inclusion and exclusion. In some cases, it was difficult to be sure that the programme evaluated was award-bearing and even data bout the numbers of students participating was not always explicitly stated.

Data extraction

The 16 studies included for in-depth review were independently double data-extracted by members of the Review Group, working in pairs and by Mukdarut Bangpan (our EPPI-centre reviewer). Following data extractions, each pair of reviewers held a consultation to discuss results, resolve any differences of opinion and agree a final composite version of the data extraction to be uploaded into the team review section of the EPPI-Centre's Research Evidence in Education Library (REEL). The data extractions were also subject to review by a meeting of the Review and Advisory Group, which focused on the final weight of evidence judgments in relation to the question guiding this systematic review. This led to some adjustments in the weight of evidence values assigned to each study.

4. 6 Nature of users' involvement in the review and its impact

As with other systematic reviews, the Review Advisory Group made a significant contribution to suggesting the focus of the review, as well as reading and commenting on the draft protocol and the draft of the final report. The Advisory Group offered advice throughout the process of conducting the review. The group consisted of teachers, SEN advisors, teacher educators, researchers, teaching assistants and policy-makers. The user groups contained teacher trainers, teachers, advisers, teaching assistants, and headteachers who were consulted at regular intervals throughout the review. They helped to shape the review question, confirmed the relevance of the results of the initial searches and responded to the findings about the training programmes that have been evaluated.

4.7 Summary of results of synthesis

The number of studies is few and the scope of their evaluations somewhat limited.

Outcomes are reported in the development of a range of knowledge and skills: for example, understanding learning and teaching better and teamwork. In addition, there are impacts on levels of morale, satisfaction, confidence and self-esteem. However, these findings are based largely on perceptions and there are no longitudinal studies of the impact of training on TAs' own development nor on its impact on classroom practice over time.

Whether of high, medium or lower weight, all the studies suggest that training is useful. It should be noted that weights of evidence judgments were mostly low or medium as the quality of reporting in the studies was uneven. Programmes reviewed in these studies reported some positive conclusions but also noted the need for other conditions to exist, such as:

• support for the programme from the headteacher

• willingness of teachers to engage in team work and allow TAs greater participation in teaching, learning and assessment (see Appendix 4.1)

The summary of principal impacts identified is presented in answer to the two questions used to screen the data extractions.

1. What does the training do for the TA in relation to job satisfaction; motivation, confidence and self-esteem of TAs; communication skills; academic skills; reflection; verbal skills; teamwork; and subject knowledge?

• STAC courses led to changes in TA job satisfaction, subject knowledge, motivation, confidence, self-esteem, teamwork (three studies: high, medium, medium-low WoE); training led to improvements in confidence and usually to greater self-esteem and sometimes more job satisfaction, but pay levels did not rise as a result of training.

• FdA/BA programmes appear to impact on job satisfaction, levels of reflection by TAs and subject knowledge (three studies: one medium-low, one low-medium, one low).

- There is low WoE support for the view that FDA/BA courses develop confidence and reflection, as well as academic skills, but the programmes may lead to frustration as TAs become more informed and more critically aware and ready to challenge teacher knowledge and practice.

- HLTA training initiatives were believed to include impacts on confidence levels, subject knowledge and reflection (one medium WoE).

- USA studies claimed direct impacts on TAs in the areas of job satisfaction, motivation, confidence and self-esteem, teamwork and subject knowledge (three studies of medium WoE; three of low / low-medium WoE).

2. How do programmes help TAs to support pupils' learning and engagement?

In general, the impacts on students could only be indirectly gleaned, with very little on direct impact on their learning. There were no longitudinal studies of impact, although one study did ask for feedback one year after training (Hutchings, 1997). Swann and Loxley (1998) sought to identify how training had changed their involvement in the teaching and learning process but were not optimistic about the ability of training to transform the engagement of TAs in the teaching and learning process, as this depended on a range of other factors, including teacher readiness, as noted above. It is worth noting that the paper had the highest weight of evidence. The following impacts were identified in the studies:

- STAC training is perceived to impact on instructional skills, assessment of pupils, inclusion and pupil interaction (three studies: high, medium, medium-low WoE).

- FdA/BA programmes lead to changes in instructional skills, skills of assessment of pupils; understanding pupils better, inclusion practice (three studies: one medium-low, one low-medium and one low WoE).

- Participation following the STAC training depends on a range of contextual factors including teacher 'preparedness' to include the TA and one study reported that TA participation had not risen following training) (one study: high WoE).

- One low WoE study of a BA programme claimed impacts on pupil behaviour (one study: low WoE).

- HLTA initiatives had little impact on instructional skills, although there was preparation for teaching whole classes. Practice in behaviour management and inclusion were said to be enhanced, although more strategies would have been welcome on behaviour management (one study: medium WoE).

- USA studies claimed impacts in the development of instructional skills, inclusion practice, behaviour management and understanding students better (three studies: medium WoE).

- The US programmes reviewed here develop similar skills to those identified in UK studies, but with more explicit focus on issues relating to inclusion, especially supporting learners, without hovering or shielding learners from integration, and including students with disabilities (two studies: medium WoE).

- Dedicated short courses targeting a particular issue can have a significant impact: for example, the programmes evaluated by Romano (1999) on combating drug / alcohol abuse and promoting student wellbeing (one study: medium WoE).

CHAPTER FIVE
Implications

The final section of this report firstly considers the strengths and weaknesses of the study, and then addresses the implications for:

• policy

• professional practice: TAs and those who lead and manage their work in schools, including guidance given to practitioners

• future research

5.1 Strengths and limitations of this systematic review

Strengths

The training of TAs has been diverse and, before this review, what has been happening in terms of training was not accessible in one place. We synthesised outcomes in relation to what we could find about training in the UK, Australia and the USA, thus offering policy-makers an overview of provision in each region. The Review Group was able to identify a range of programmes for teaching assistants that had been subjected to some form of evaluation.

The disciplines of screening using inclusion/exclusion criteria, keywording, and EPPI-Centre reviewer data-extraction tools enabled reviewers to focus very firmly on the issue of training, although there were some difficulties (see below). From these processes, we can conclude that training programmes are welcome, relevant and effective (but again with some reservations), although take-up is patchy and opportunities are limited.

The review protocol set the agenda for the review with the elaboration of the key question and the description of the process that would be undertaken to explore the question. This gave a structured framework for the study of the literature. The EPPI-Centre procedure enabled us systematically and transparently to identify a significant number of relevant studies that address, at least in part, the question posed by the review. Through systematic data-extraction procedures, the research team were able to analyse in-depth the impacts reported about training programmes. We now have a sense of the extent of training available to TAs, its limited take-up, and its probable, limited impact, given that there is no comprehensive programme of TA training.

Limitations

Several studies described training programmes and reported on evaluations but gave quite limited attention to impacts. As a result, the number of programmes covered is quite limited, indicating that a vast amount of provision has not been explored. Longitudinal studies were not found so evidence of impact is often impressionistic, based on participants' reports, teacher or headteacher perceptions.

As with our previous reviews (Cajkler et al. 2006, 2007) the 'overall weight of evidence' (WoE D) refers to a set of assessment criteria which judges the following:

i) appropriateness of the focus of studies in relation to the question posed for the in depth review

ii) the appropriateness of research approach and design in answering the research questions

iii) the trustworthiness of conclusions

It is a demanding assessment criterion to work with due to the limitations of some journal articles/conference papers in reporting detailed research methodology, data analysis procedures and findings. On the whole, the Review Group was concerned about the limited quality of the reporting of research design in several of the studies. In addition, they had difficulty assessing whether studies reported on award-bearing provision or on general programmes. On some occasions, it was necessary to give benefits of the doubt and infer information about the nature of the training and the approach to the research. Overall, only one study (Swann and Loxley, 1998) provided sufficient information on the analytical frameworks that they used to generate research conclusions to warrant a high weight of evidence: this was found to be a particular weakness of the studies reviewed in the in-depth study.

5.2 Implications

Implications are considered under the headings of policy, practice and research.

5.2.1 Policy

The information provided by this review is important in terms of informing policy development and improving practice. The review makes known to policy-makers knowledge held by educational professionals (researchers, teachers, teaching assistants) about the scope and value of training. It makes clear that policy on training for TAs has not been co-ordinated and that a patchwork quilt provision exists with opportunities relatively untargeted. It is hoped that this report will contribute to the debate about TA training, and ultimately to rapid improvement in its provision, its take-up and its evaluation. The fact that practice is fragmented, disparate and perhaps even invisible to many teaching assistants emphasizes the importance of drawing together information on training in one place.

There have been significant policy developments in recent years: for example, developments in the UK include induction training (Department for Education and Skills, 2000), the STAC course since 1994, and the HLTA training opportunities since 2003. Nevertheless, we are still left with the feeling that training is patchy, both in the UK (Russell et al., 2005) and in the United States: 'In spite of the dramatic shift in the paraeducator role away from clerical work and toward instructional support, training remains notably absent' (French, 2003, p 6).

In addition, three of the four studies of STAC training in the UK are almost ten years old (Swann and Loxley, 1998; Hutchings, 1997; Edwards and Clemson, 1997). The establishment of this course in 1994 by the DfE was forward thinking and welcome, but withdrawal of funding for the STA in recent years is a regressive move. The HLTA (though notionally at Higher Education level 2) is not specifically equated with a course of study, but is more an opportunity

for more experienced and able TAs to acquire a status. It is not a programme for skilling a growing workforce; perhaps the STA had the potential to do that but its success needs to be built upon and offered more widely.

The degree to which training opportunities exist for TAs needs to be reviewed to determine how well they are prepared for their roles. The absence of pre-service training (virtually no studies in the map) is an issue for review and debate. To what extent should TAs be trained before taking up posts? Why is induction training not obligatory for all new TAs?

In the future, given the rather unco-ordinated way in which training has developed and been taken up, we are likely to be left with a workforce of many levels and training backgrounds. In Britain, the review demonstrates that there are tiers of TAs, some with little training, some with induction only, and some with a variety of in-service or initiative-related training; others have the STAC programme behind them, some HLTA, still more with a foundation degree or bachelor's degree. How will they be accommodated in terms of role, deployment, pay and responsibility? The emergence of a variety of awards for TAs has implications for the following:

1. the future structure of the workforce

2. managers in schools, who will begin to seek TAs with more and higher levels of qualification than has previously been the case

3. appointments and promotion procedures

4. professional development policies in schools

5. pay policy

The Department for Education and Skills (2004) has spelled out its vision for the training of support staff consequent upon the introduction of Every Child Matters (similar to the No Child Left Behind (NCLB) policy in the US), with significant roles now given to the Learning and Skills Council and the Training and Development Agency for Schools. The latter has taken charge of the induction training for TAs and commissioned an evaluation of the induction programme (Department for Education and Skills, 2000) from the University of Luton. Induction training for new appointees is not nationally mandatory, although it is often recommended by local authorities. At the time of this review, the TDA-commissioned study had not been published, but some interim findings were accessible through the TDA website showing the following:

- 55% of local authorities (LAs) offer four full days of induction training for TAs.

- 75% of LAs offer at least one optional module for TAs (e.g. EAL) www.tda.gov.uk/upload/resources/ppt/inductiontrainingta_support_staff.ppt#266,13,

Emerging results from Phase 1).

With regard to impact, the University of Bedfordshire study (TDA, 2007) reflected many of our findings. Short course induction training by local authorities in England led to TAs feeling more confident and enjoying greater self-esteem (TDA, 2007, p 32) and teachers feeling that in-class support had improved as a result. There was, however, little mention of direct impact on pupil outcomes (p 34), again in keeping with many of the studies we reviewed.

Policy developments are awaited. Our User Group members advised that many TAs working in schools in England still have little or no training for the roles they fulfil.

Initiatives associated with Every Child Matters will lead to further developments and to recommendations for the training of teaching assistants, perhaps in similar ways to those introduced in relation to No Child Left Behind in the USA. As far as policy is concerned, the review is important in that hitherto the provision was revealed as rather a disparate range of somewhat reactive responses (and lack of responses) to felt needs.

In addition, it is important to note the sense of frustration which has emerged from this review: one might reasonably conclude that there is little point in training TAs to work more effectively with children if they are not then given sufficient autonomy in the classroom to implement this training. There are also implications for teacher education policy, notably the need to prepare teachers to manage paraprofessional staff effectively and inclusively.

Recognition of these implications is not new and there have been surveys of teacher readiness/ability to manage TAs, for example, Lindeman and Beegle (1988), who were not encouraging and closed with the comment: 'The academic community must align itself with local educational service systems and begin to fully train teachers to effectively use the instructional paraprofessional' (p 185).

5.2.2 Professional practice

The synthesis of 16 studies revealed that training programmes focused on the areas shown in Table 5.1.

To what extent the areas of focus meet the perceived needs of TAs is an issue for further review. Within each category, it was often difficult to identify detail, for example, the extent to which TAs were trained not to hover over pupils, the extent to which they were trained to communicate with teachers about pupils or to act as advocates. There were exceptions to this. For example, Gittmann and Berger (1997) listed a range of changed behaviours following training: downplaying misbehaviour,

setting rules early, helping children think through their own behaviour, modulating one's tone of voice, kneeling to the children's level, giving children opportunity to settle their own disputes, encouraging peer interaction, using praise, assigning jobs, allowing independence, using star charts, and personal sharing. This kind of detail was largely absent from UK studies.

Table 5.1 Focus on training programmes (N = 16, not mutually exclusive)

Learning and teaching skills; basic instruction skills	10
Inclusive practice (securing inclusion in mainstream) e.g. facilitating peer interaction	2
SEN and effective learning (not necessarily inclusion); academic support for diagnosed condition (e.g. dyslexia, autism, AD/HD)	4
Support for hearing impaired	1
Literacy programme	4
Numeracy	4
Behaviour management	4
Assessment (how to assess pupils)	2
Effective teaming	5
General classroom support	4
TA Communication skills	2
Action research for TAs/reflective practice	2

Some of the responses suggest interactions with teachers might prove more difficult after training because teachers were not yet ready or able to give more responsibility to TAs (Swann and Loxley, 1998). In other cases, there were concerns from teachers about having their methods subjected to criticism by teaching assistants.

Study of impacts in the map and the in-depth synthesis suggest that training is effective in raising awareness, and in developing confidence and subject knowledge, as well as instructional skills. However, the TA's role (Cajkler et al. 2006, 2007) is now a multifaceted one, incorporating for example, provision of direct learning support, assistance to bring about inclusion and integration, sometimes parent liaison and communication, and possibly but less frequently than in the past, acting as personal assistants to teaching staff.

To what extent do the programmes reviewed contribute to the developments of skills needed to meet expectations in the above areas? A number of TA contributions identified in our previous reviews (Cajkler et al. 2006, 2007) only emerged in general and relatively infrequent terms; these include communication with parents, social mediation skills, how to promote interaction, acting as a mediator or strategies used for including pupils. Training did not seem to address these contributions.

Training programmes focused on instructional skills or inclusion, but few focused on the communication

skills needed to work with parents (a lack also noted by Lewis, 2003, in the USA). While there was some focus on communication, little attention appeared to be given to non-verbal communication, including gesture, gaze or posture.

Time will need to be given to determine how well new TAs are prepared in relation to the following:

- approaching the support of the inclusion of a pupil, without hovering

- acting as a mediator between teacher and pupils (socially and academically), the so-called bridge or arbitrator role identified in the first reviews conducted by this group (Cajkler et al. 2006, 2007)

- working from individualised educational programmes (IEPs) for students

- skills in home-school communications, where TAs are deployed to communicate with parents (identified in Cajkler et al. 2006, 2007)

- promoting interaction among pupils (identified in Cajkler et al. 2006, 2007)

- explaining disabilities

- handling confidentiality issues

How are TAs prepared before the job or on the job for such roles and contributions? Many TAs seem to depend on on-the-job training. To what extent do schools monitor this?

We know that STAC courses led to changes in TA knowledge, confidence, reflection, understanding and possibly practice, but US studies seem to have a stronger focus on inclusion, including the avoidance of hovering over students. It has emerged also from this review that FdA/BA courses (although explored in low WoE studies) may develop confidence and reflection, as well as academic skills, and that short courses can have a significant impact (e.g. Romano, 1999). It is also clear that different bodies work together in the design and delivery of programmes (Broadbent and Burgess, 2003; Blalock et al., 1992), with teaching assistant organisations involved in the planning, but the effectiveness of these partnerships does not seem to have been evaluated in a systematic way. Again, in terms of impact, we have only limited knowledge, as acknowledged by Blatchford et al. (2004, p 6).

TA knowledge and understanding certainly seem to change as a result of all the training programmes reviewed here, but impact depends on a range of factors. The attitude of the school, and support from management and teachers, are critical to the success of TA training (Wilkins, 2004; Swann and Loxley, 1998; Edwards and Clemson, 1997). Unless teachers are primed and assisted to respond to the development of skills in their teaching assistants,

the impact of the training may be stifled as noted above.

Finally, while training of TAs is needed, we require stronger evidence as to what forms of training work well and why. Many programmes of study are offered to TAs – such as college courses in the UK (CACHE awards, BTEC awards, GNVQs and NVQs - and evaluations of these do not appear to have found their way into the literature.

5.2.3 Future research

The reviewers conclude that much of the research in this field is at best emergent, perhaps because training for TAs is emerging and often reactive. Research on the training of TAs is sparse and largely descriptive, leaving us with only limited amounts of evidence about the impacts of training on TAs. As a result, we were dealing with reports (often of limited scope and quality) on a group of workers with disparate roles and scattered training. Well-designed studies are few in number as evidenced by the comparatively low WoEs given to our sample. So, the findings of this review about the impact of training are at best indicative.

Most studies have concentrated on perceptions of impact. To date, few studies have really investigated in depth the impact of training on TAs beyond these perceptions, with a few notable exceptions (for example, Swann and Loxley, 1998; Giangreco et al., 2003a). Training has been an issue for investigations in a number of research projects (Farrell et al. 1999; Lee and Mawson, 1998; Russell et al. 2005; Wilson et al. 2002), but these general studies have reported TA or teacher perceptions about the training, without significant study of the impact and relative value of different types of programme. Edwards and Clemson (1997) sought to identify the relative merits of STAC and NNEB training. STAC training has been well evaluated, but in some parts of England, the programme has been replaced by other vocational programmes such as NVQs. These approaches need to be subjected to research so that the relative merits of the different programmes can be explored.

There is a range of provision in the UK that needs to be explored, for example:

- City and Guilds Introductory Certificate in Learning Support

- City and Guilds Advanced Certificate in Learning Support

- CLANSA Certificate for Literacy and Numeracy Assistants

- BTEC Professional Development Award

- NCFE Special Needs Assistants Certificate 1

- NCFE Initial Training for Classroom Assistants Certificate 2

• CACHE – Specialist Teacher Award

What type of training works, and why? These are questions for future projects.

Research with pre-tests and post-tests for the TA, for pupils, or an analysis of the language used in helping children before and after, may be the way to begin to address the poverty of understanding of impacts in TA training. Perhaps ways to do this can be explored in the research-related training studies discussed briefly in Chapter 3 (section 3.5).

5.3 Conclusions

We have learned that a variety of provision exists but this has grown in relatively unco-ordinated ways, despite initiatives such as STAC in the UK and No Child Left Behind (NCLB) criteria in the USA. Governments are taking greater interest and beginning to mandate standards and requirements. In the USA, national standards are emerging with centrally directed moves for training associated with the 2001 'No Child Left Behind Act' (Wall et al., 2005; Schmidt and Greenough, 2002).

Paraeducators in Title 1 schools should:

• demonstrate a range of instructional abilities in support of reading, writing and mathematics

• have completed two years of higher education study

• have obtained an associate's degree, equivalent to a foundation degree (Trautman, 2004)

However, such requirements provide resourcing challenges that may prove to be a significant headache.

As yet, there is no such guidance in the UK, although the TDA is conducting a review. In addition, we have no clear pattern of requirements for the appointment of TAs, pending further TDA work in 2007, and the awards structure is still to be developed. There are emerging requirements for more highly qualified paraeducators, notably the HLTA in the UK and programmes that meet the criteria for NCLB and Early Childhood requirements in the US. But, do these address the needs of classroom-based TAs, working with groups of children to support learning and teaching?

It was beyond the scope of the Review Group to investigate the progress of current initiatives, but these developments in the USA should be researched to see what lessons can be learned for provision in the UK, where standards have not been fully established for TAs and training remains an option rather than a requirement, with take-up often low (Russell et al., 2005).

Given the policy of Every Child Matters (Department for Education and Skills, 2003a), the training of TAs has been acknowledged as critical to the success of the programme (Department for Education and Skills, 2004). It is essential that we learn from this review, to make sure that future programmes prepare TAs to support students' learning and engagement. Success in this depends not just on TA commitment but also on the willingness of managers and teachers to take account of, and accommodate, trained TAs so that pupils are not hovered over and not left behind. Such an achievement will enhance TA job satisfaction, motivation and self-esteem.

CHAPTER SIX
References

6.1 Studies included in map and synthesis

Studies selected for in-depth review are marked with asterisks (*).

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Appendix 1.1: Authorship of this report

This work is a report of a systematic review conducted by the English Review Group.

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Conflict of interest

In the conduct of this review, we have worked within the EPPI-Centre guidelines, methodology and quality-assurance procedures for systematic reviewing. While we consulted the Training and Development Agency for Schools (TDA) about the review and were consulted by them, we have worked in an independent way. There may have been occasions when our own educational experience and understandings impacted on our judgments. However, the system of pairs of reviewers arriving at independent judgements attempts to limit bias as much as possible. There are no conflicts of interest for any members of the group.

Acknowledgements

Appendix 1.2: Sample of HEI courses available to TAs in 2005/06

CPD courses available for TAs in the Midlands 2005-06

Autistic Spectrum Disorders	University Certificate	Web-based	1 year
An Interdisciplinary Approach to Learning Difficulties	AdCert	Part-time Distance	1 year
Mentoring	UCert	Part-time	1 year
Social, Emotional and Behavioural Difficulties	UCert	Part-time Distance	
Working with Children and Young People with SEBD	UCert	Part-time Distance	1 year
Foundation Degree in Educational Practice	Foundation Degree (FdA)	Fulltime Part-time	2 years 4 years
Foundation Degree Educational Studies for Teaching Assistants	FdA		
Professional Certificate in Education Studies	PCES	1 day a week	1 year
Foundation Degree in Arts in Childhood Studies	FdA	1 afternoon + 1 evening	3 years
Foundation Degree Learning and Teaching	FdA	Part-time	2 Years
Early Years Sure Start Endorsed Foundation Degree	FdA	Part-time	2 Years
Supporting Learners with social, emotional and behavioural difficulties – Part 1, 2 + 3	20 CATs points Modules	1 day per week	
Supporting Learners with Special Educational Needs	20 CATs points – Level 1 Module	½ day per week	1 term
Supporting Learners with SLD/PMLD – Part 1 + 2	20 CATs points – Level 1 Module	½ day per week	
Supporting Learners with Autism Spectrum Disorders – Part 1 +2	20 CATs points – Level 1 Module	1 day per week	
Supporting Learners with Speech, Language and Communication Needs	20 CATs points – Level 1 Module	½ day per week	1 term
Supporting Learners with Numeracy [SEN]	20 CATs points – Level 1 Module	½ day per week	1 term
Supporting Learners with Literacy Difficulties [Dyslexia]	20 CATs points – Level 1 Module	½ day per week	1 term
Supporting Learners with Literacy Difficulties [Dyslexia]	20 CATs points – Level 1 Module	½ day per week	1 term
Supporting Learners with Additional Linguistic and Cultural Needs [Minority Ethnic Pupils]	20 CATs points – Level 1 Module	½ day per week	i term
Supporting Learners – Specialist Teaching Assistants	STAC	½ day per week	1 year

Appendix 1.3: Bibliography from French (2003): papers related to training

Examples of TA training related papers identified by French (2003), post-1987 only

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Long CA, Emery M, Reeham SP (1994) Training special education paraprofessionals: a comparison of teachers' and paraprofessionals' concerns. Paper presented at: *Annual Conference on the Training and Employment of the Paraprofessional Workforce in Education, Rehabilitation and Related Fields*. Albuquerque, NM: 13 April.

Parsons MB, Reid DH (1999) Training basic teaching skills to paraeducators of students with severe disabilities: a one-day program. *Teaching Exceptional Children* 31: 48-54.

Passaro PD, Pickett AL, Latham G, HongBo W (1991) *The training and support needs of paraprofessionals in rural special education settings*. Unpublished report. Logan, UT: Mountain Plains Regional Resource Center, Utah State University.

Pickett AL (1999) *Strengthening and supporting teacher/provider-paraeducator teams: guidelines for paraeducator roles, supervision, and preparation*. New York: National Resource Center for Paraprofessionals in Education and Related Services, Center for Advanced Study in Education, Graduate Center, City University of New York.

Riggs CG (2001) Ask the paraprofessionals: what are your training needs? *Teaching Exceptional Children* 33: 78-83.

Appendix 2.1: Inclusion and exclusion criteria

Inclusion

1. SCOPE

To be included, a study had to be:

1. about teaching assistants

2. about the training of teaching assistants

3. focused on teaching assistants working with the 4-19 age range in primary and secondary schools, and their equivalents in other countries

2. TIME and PLACE

To be included, the study had to be both:

a. reported and published in English; and

b. published in the period 1988-2006 (i.e. from the decade when the National Curriculum was introduced in England and Wales)

3. STUDY TYPE

To be included, a study had to:

a. be based on primary empirical research (e.g. evaluation studies of training; surveys of training and development activities; case studies, reporting of perceptions through questionnaires, interviews and focus group meetings); and

b. contain descriptions of the impacts of training and development activities on teaching assistants and/or on pupils' learning and engagement.

Exclusion

X1 = NOT about teaching assistants (as defined in the protocol)

X2 = NOT about training of teaching assistants for activities related to learning and engagement (including SEN/EAL/Numeracy/Literacy/Subject support work and NOT about training of teaching assistants to become teachers)

X3 = NOT about teaching assistants working in Foundation Stage to KS5 (4-19)

X4 = NOT about the impact of training or perceptions of TAs' training on TAs' classroom practice and contributions to pupils' learning and engagement

X5 = NOT primary empirical research studies

X6 = NOT about mainstream schools (e.g. set in special schools)

X7 = NOT published in the period 1988-2006

X8 = NOT published in English

X9 = Theses/dissertations

XGAZ = Newspaper articles

XNA = Not available (This was only applied after the cut-off date: 1 April 2006.)

Other codes

SfS: Send for further screening (for consideration for inclusion or for checking because we did not have adequate information in the title and abstract).

The following studies were excluded on exclusion criterion 5:

a. editorials, book reviews, position papers

b. policy documents (e.g. DfES consultation paper, 2002), syllabuses, frameworks

c. resources

d. handbooks (e.g. Fox, 1998)

e. methodology papers

f. bibliographies and literature reviews

g. non-empirical papers

However, bibliographies of literature reviews were handsearched for possible relevant papers.

In-depth review criteria

For inclusion in the in-depth review:

The TAs' training, reported in the study, had to:

EX1: be award-bearing training (accredited in some way, leading to an award)

EX2: be for paid teaching assistants

EX3: be for TAs in mainstream primary or secondary schools only

The studies (articles/reports/conference papers) had to:

EX4: include a report of an evaluation of the TAs' training programme with data or outcomes reported (the latter could be perceptions of participants about impact on them)

EX5: be a primary study, not a study reporting on previously conducted studies

This inclusion process resulted in 16 studies being identified for inclusion in the in-depth review.

Appendix 2.2: Search strategy for electronic databases

Databases	Availability	Time period of search
Educational Resource Index and Abstracts (ERIC)	Dialog@SiteDialog@Site Web version	1966-1983
		1984-1989
		1990-2006
British Educational Index (BEI)	Dialog@SiteDialog@Site Web version	1976-2006
Australian Educational Index (AEI)	Dialog@SiteDialog@Site Web version	1976-2006
Psycinfo	Ovid Web version	
ISI Web of Science	MIMAS ISI Web of Knowledge Web version	1981-2006
International Bibliography of the Social Sciences (IBSS)	BIDS Web version	1970-2006
ArticleFirst	OCLC FirstSearch Web version	1970-2006

Strategies

ERIC

CLASS AID?

OR TEACHER AID?

OR CLASSROOM AID?

OR TEACHING AID?

OR CURRICULUM SUPPORT?

OR TEACHING COACH?

OR PSYCHOEDUCATOR?

OR PARAEDUCATOR?

OR BILINGUAL ASSISTANT?

OR HELPER?

OR LEARNING MENTOR?

OR ANCILLAR?

OR AUXILIAR?

OR PARAPROFESSIONAL?

OR SUPPORT STAFF?

OR LEARNING SUPPORT ASSISTANT?

OR SUPPORT ASSISTANT?

AND SCHOOL?

NOT UNIVERSIT?

NOT COLLEGE?

NOT MEDICAL SCHOOL?

NOT HIGHER EDUC?

BEI

FACILITATOR?

OR SPECIAL EDUCATIONAL NEEDS ASSISTANT?

OR CURRICULUM SUPPORT?

OR TEACHER AID?

OR EDUCATIONAL THERAPIST?

OR PARAEDUCATOR?

OR BILINGUAL ASSISTANT?

OR HELPER?

OR VOLUNTEER?

OR LEARNING MENTOR?

OR ANCILLAR?

OR AUXILIAR?

OR PARAPROFESSIONAL?

OR TEACHING ASSISTANT?

OR CLASSROOM ASSISTANT?

OR SUPPORT STAFF?

OR LEARNING SUPPORT ASSISTANT?

OR SUPPORT ASSISTANT?

AEI

SCHOOL?

AND SPECIAL EDUCATIONAL NEEDS ASSISTANT?

OR CURRICULUM SUPPORT?

OR TEACHER AID?

OR PARAEDUCATOR?

OR BILINGUAL ASSISTANT?

OR HELPER?

OR VOLUNTEER?

OR LEARNING MENTOR?

OR ANCILLAR?

OR AUXILIAR?

OR PARAPROFESSIONAL?

OR TEACHING ASSISTANT?

OR CLASSROOM ASSISTANT?

OR SUPPORT STAFF?

OR LEARNING SUPPORT ASSISTANT?

OR SUPPORT ASSISTANT?

NOT ADULT LEARNING

NOT HIGHER EDUC?

NOT UNIVERSIT?

PsycInfo

#15 ((helper* or learning mentor*) or (paraeducator* or bilingual assistant*) or (psychoeducator* or school volunteer*) or (teacher aid*) or (teaching aid* or teaching coach*) or (special educational needs assistant* or curriculum support*) or (class aid* or classroom aid*) or (learning support assistant* or support assistant*) or (classroom assistant* or support staff*) or (paraprofessional* or teaching assistant*) or (ancillar* or auxiliar*)) and ((education* or school* or classroom*) in de)

#14 (or learning mentor* or helper*) or (paraeducator* or bilingual assistant*) or (psychoeducator* or school volunteer*) or (teacher aid* or (teaching aid* or teaching coach*) or (special educational needs assistant* or curriculum support*) or (class aid* or classroom aid*) or (learning support assistant* or support assistant*) or (classroom assistant* or support staff*) or (paraprofessional* or teaching assistant*) or (ancillar* or auxiliar*)

#13 (education* or school* or classroom*) in de

#12 psychoeducator* or school volunteer*

#11 teaching aid* or teaching coach*

#10 class aid* or classroom aid*

#9 learning support assistant* or support assistant*

#8 classroom assistant* or support staff*

#7 paraprofessional* or teaching assistant*

#6 ancillar* or auxiliar*

#5 learning mentor* or helper*

#3 paraeducator* or bilingual assistant*

#2 teacher aid* or educational therapist*

#1 special educational needs assistant* or curriculum support*

ISI Web of Science

#16 #15 and #16

#15 TS=(school*)

#14 #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14

#13 TS=(psychoeducator* or school volunteer*)

#12 TS=(teaching aid* or teaching coach*)

#11 TS=(class aid* or classroom aid*)

#10 TS=(learning support assistant* or support assistant*)

#9 TS=(classroom assistant* or support staff*)

#8 TS=(teaching assistant*)

#7 TS=(paraprofessional*)

#6 TS=(school ancillar* or school auxiliar*)

#5 TS=(school helper*)

#4 TS=(paraeducator* or bilingual assistant*)

#3 TS=(teacher aid*)

#2 TS=(school librarian* or learning mentor*)

#1 TS=(special educational needs assistant* or curriculum support*)

DocType=All document types; Language=English; Database(s)=SCI-EXPANDED, SSCI, A&HCI; Timespan=1981-2004

ArticleFirst

"special educational needs assistant*

or "volunteer+"

or "curriculum support+"

or "teacher aid*"

or "paraeducator+"

or "bilingual assistant+"

or "school helper+"

or "learning mentor+"

or "ancillar*"

or "auxiliar*"

or "paraprofessional+"

or "teaching assistant+"

or "classroom assistant+"

or "support staff+"

or "learning support assistant+"

or "support assistant+"

or "class aid*"

or "classroom aid*"

or "teaching aid*"

or "teaching coach*"

or "psychoeducator+"

or "nursery nurse+"

and "school+"

Appendix 2.3: Journals handsearched

British Education Research Journal

Support for Learning

British Journal of Educational Research

Disability and Society

Scandinavian Journal of Educational Research

European Education Research Journal

APPENDIX 2.4   EPPI-Centre keyword sheet, including review-specific keywords

V0.9.7   *Bibliographic details and/or unique identifier*

A1. Identification of report
Citation
Contact
Handsearch
Unknown
Electronic database (please specify) . . . .

A2. Status
Published
In press
Unpublished

A3. Linked reports
Is this report linked to one or more other reports in such a way that they also report the same study?
Not linked
Linked (please provide bibliographical details and/or unique identifier)
. . . .
. . . .
. . . .

A4. Language (please specify)
. . . .

A5. In which country/countries was the study carried out? (please specify)
. . . .
. . . .

A6. What is/are the topic focus/foci of the study?
Assessment
Classroom management
Curriculum*
Equal opportunities
Methodology
Organisation and management
Policy
Teacher careers
Teaching and learning
Other (please specify) . . . .

A7. Curriculum
Art
Business studies
Citizenship
Cross-curricular
Design and technology
Environment
General
Geography
Hidden
History
ICT
Literacy – first language
Literacy further languages
Literature
Maths
Music
PSE
Physical education
Religious education
Science
Vocational
Other (please specify) . . . .

A8. Programme name (please specify)
. . . .

A9. What is/are the population focus/foci of the study?
Learners
Senior management
Teaching staff
Non-teaching staff
Other education practitioners
Government
Local education authority officers
Parents
Governors
Other (please specify) . . . .

A10. Age of learners (years)
0–4
5–10
11–16
17–20
21 and over

A11. Sex of learners
Female only
Male only
Mixed sex . . . .

A12. What is/are the educational setting(s) of the study?
Community centre
Correctional institution
Government department
Higher education institution
Home
Independent school
Local education authority
Nursery school
Post-compulsory education institution
Primary school
Pupil referral unit
Residential school
Secondary school
Special needs school
Workplace
Other educational setting (please specify)
. . . .

A13. Which type(s) of study does this report describe?
A. Description
B. Exploration of relationships
C. Evaluation
   a. naturally-occurring
   b. researcher-manipulated
D. Development of methodology
E. Review
   a. Systematic review
   b. Other review

Review-specific keywording

	SECTION A: 24 May 2006 (Final)
A.1 What is the status/level of the training event? Please tick all that apply.	A.1.1 Pre-service (entry level/pre-entry) training
	A.1.2 Induction training (e.g. DfES/LEA orientation)
	A.1.3 In-service / CPD training
	A.1.4 Initiative related in-service (e.g. NLS)
	A.1.5 Researcher initiative in-service (research project)
	A.1.6 Unclear
A. 2 Award bearing or not Please tick all that apply.	A.2.1 No award (Not accredited, go to A4.)
	A.2.2 Accredited (award-bearing)
	A.2.3 Certificate of attendance only
	A.2.4 Unclear
A.3 Type of training award	A.3.1 STA course
	A.3.2 HLTA training
	A.3.3 Degree / Foundation degree (associate degree)
	A.3.4 Bachelor's degree (BA/BSc)
	A.3.5 NVQ
	A.3.6 GVQ
	A.3.7 City and Guilds
	A.3.8 Cache
	A.3.9 DfES Induction
	A.3.10 HLTA taught
	A.3.11 HLTA assessment route
	A.3.12 LEA award / local district award
	A.3.13 Paraeducator entry level certificate
	A.3.14 Statewide programme (USA)
	A.3.15 ESEA award / equivalent (USA)
	A.3.15 First aid certificate
	A.3.16 Training to convert TAs to teachers
	A.3.17 Other (Please specify.)
	A.3.18 Unclear
A.4 Who offered the training? Please tick all that apply.	A.4.1 HEI / University
	A.4.2 LEA / Local district (in USA/AUS)
	A.4.4 FE college
	A.4.4 School (TAs)
	A.4.5 Independent provider
	A.4.6 TAFE (AUStralia agency)
	A.4.7 Professional association
	A.4.8 Research project team
	A.4.9 Other (Please specify.)
	A.4.10 Unclear

A.5 What is the focus of the training? Please tick all that apply. 5.2 Include promoting interaction with peers. If the programme aims to promote inclusion and help TAs support pupils with autism, tick both 5.2. and 5.3. If the course is for TAs in special schools to address SLD, tick 5.3 only. 5.15 Use for training to assist teachers in tasks such as preparing materials, setting up in general classes, etc.	A.5.1 Learning and teaching skills; basic instruction skills
	A.5.2 Inclusive practice (securing inclusion in mainstream) e.g. facilitating peer interaction
	A.5.3 SEN and effective learning (not necessarily inclusion): academic support for diagnosed condition (e.g. dyslexia, autism, AD/HD) (Use for studies that indicate that training is given to address specific needs including SLD, PML, profound mental/physical impairment.)
	A.5.4. Support for visually impaired
	A.5.5 Support for hearing impaired
	A.5.6 Literacy programme
	A.5.7 Numeracy
	A.5.8 Young child (nursery nurse support; reception)
	A.5.9 English as additional language / bilingual ed.
	A.5.10 Behaviour management
	A.5.1 Foreign language lesson support
	A.5.12 Cultural diversity
	A.5.13 Assessment (how to assess pupils)
	A.5.14 Effective teaming
	A.5.15 General classroom support
	A.5.16 TA communication skills
	A.5.17 Action research for TAs / reflective practice
	A.5.18 Other (Please specify.)
	A.5.19 Unclear
A.6 Type of training involved	A.6.1 Formal course attended
	A.6.2 On the job training/classroom based training
	A.6.3 Apprenticeship
	A.6.4 Training by mentor in school
	A.6.5 Distance learning programme
	A.6.6 Self-managed/directed learning activity
	A.6.7 Online learning programme
	A.6.8 School training days
	A.6.9 Training by researcher
	A.6.10 Other (Please specify.)
	A.6.10 Unclear
A.7 What is the length of the training in terms of contact time (excluding private study)?	A.7.1 1 day or less
	A.7.2 2-5 days FTE
	A.7.3 Short course (one twilight session a week per term)
	A.7.4 Short course: 1 FTE day per week for 5-10 weeks
	A.7.5 Long course (more than 5-10 weeks to one year, part time)
	A.7.6 Long course (two years, part-time)
	A.7.7 Long course (more than 5-10 weeks, fulltime)
	A.7.8 Online
	A.7.9 Other (Please specify.)
	A.7.10 Unclear

A.8 Time offered for study	A.8.1 Course in own time
	A.8.2 Paid release from school
Tick all that apply, include percentages if given.	A.8.3 Unpaid release from school
	A.8.4 School training days
If in-school but time allowed unclear, tick 'Unclear' and explain.	A.8.5 Mixed, some paid some unpaid
	A.8.6 Other (Please specify.)
	A.8.7 Unclear
A.9 Context of training attended	A.9.1 Own work site e.g. school
	A.9.2 Home
Tick all that apply	A.9.3 HEI/University
	A.9.4 LEA/district training day-centre
	A.9.5 Private provider day-centre
	A.9.6 Residential center
	A.9.7 Online community
	A.9.8 Other (specify)
	A.9.9 Unclear
A. 10 Applied activity during training	A.10.1 Attendance only (no further activity)
	A.10.2 Workplace activity involved
If 10.1 is ticked, no other will be ticked.	A 10.3 Directed tasks obligatory
	A.10.4 Directed tasks optional
	A.10.5 Observations of practice included
	A.10.6 Assessment of knowledge/skills acquired
	A.10.7 Mentor support in school
	A.10.8 Other (Please specify.)
	A.10.9 Unclear
A.11 Follow-up activity post-training programme	A.11.1 No follow-up
	A.11.2 Follow-up meetings to review progress/impact (e.g. after three months)
Tick all that apply, unless 11.1 ticked.	A.11.3 Observations to monitor implementation (e.g. probes by trainers or mentor)
	A.11.4 Additional coaching
	A.11.5 Request for feedback on impact (by trainer)
	A.11.6 Monitoring by mentor
	A.11.7 Online community follow-up
	A.11.8 Follow-up tasks/portfolio
	A.11.9 Other please specify
	A.11.10 Unclear
A. 12 Who initiated the training?	A.12.1 Self (TA)
	A.12.2 Headteacher
	A.12.3 Mentor in school
	A.12.4 Head of department
	A.12.5 SENCO
	A.12.6 Researchers
	A. 12.7 Local government initiative
	A. 12.8 National government initiative
	A.12.9 Other (Please specify.)
	A.12.10 Unclear

A.13 Numbers of programmes described and evaluated	A.13.1 One
	A.13.2 Two
	A.13.3 Three
	A.13.4 Multitude (e.g. current national training provision)
	A.13.5 Unclear
A.14 Numbers of staff participating (if known) Tick and indicate number	A.14.1 TAs/paraeducators
	A.14.2 Not known/unclear
	A.14.3 Not relevant (e.g. general survey of training programmes)
	SECTION B: Study specific details
B.1 Country of Study	B.1.1 UK
	B.1.2 Italy
	B.1.3 Sweden
	B.1.4 France
	B.1.5 USA
	B.1.6 Australia
	B.1.7 Canada
	B.1.8 New Zealand
	B.1.9 Other (Please specify.)
B.2 Study focus: How is the training evaluated or explored? If both ticked, do Q.B.4 and B.5.	B.2.1 Perceptions of TAs' training Please go to question Q.B.3.
	B.2.2 Evaluation of TAs' training
B.3 Which stakeholder perceptions are reported, if any? Please tick all that apply.	B.3.1 Support staff
	B.3.2 Teachers
	B.3.3 Headteachers / smt (senior management)
	B.3.4 Pupils
	B.3.5 Trainers/instructors/participant researchers
	B.3.6 Other (Please specify.)
	B.3.7 Unclear

B.4 Outcomes reported	Outcomes reported
Please tick all categories in which there has been a measured or perceived effect	B.4.1 TA's confidence/self-esteem
	B.4.2 Pupil academic attainment/progress in skills
4.1 Confidence could self, or with pupils (add note)	B.4.3 Pupil social skills, interaction,
	B.4.4 TA ways to include pupils
In 4.3, include positive/negative effects on pupil behaviour, attitudes.	B.4.5 TA's understanding of how to do job
	B.4.6 TA's responsibility for supporting learning in class
	B.4.7 learning and teaching skills; Instructional behaviours/skills
	B.4.8 Subject knowledge
4.4 Inclusive practice (securing inclusion in mainstream) e.g. facilitating peer interaction	B.4.9 TAs' working independently of teacher
	B.4.10 Avoidance of hovering/intrusion
4.5 Including programming	B.4.11 Assessment (how to assess pupils)
	B.4.12 Verbal skills/ways to communicate
4.7 = TA teaching/instructional skills	B.4.13 Academic skills (e.g. research, writing)
	B.4.14 Identification of own inadequacies
4.8 Include understanding how children learn/awareness of pupils' learning processes in subject knowledge and add note.	B.4.15 Confirmation of own good practice
	B.4.16 Awareness of disabilities (e.g. diagnosed conditions, such as dyslexia, autism, AD/HD, or physical)
	B.4.17 Cultural awareness (diversity)
4.10 Cocoon effect; TA hovering over pupil	B.4.18 TA managing pupil behaviour
	B.4.19 Teaming/teamwork
4.12 Verbal skills / ways to communicate include communicating to pupils, teachers and others (e.g. parents)	B.4.20 Pay rise
	B.4.21 Job satisfaction
	B.4.22 Other
4.21 Include staff morale, enthusiasm, reduction in areas of concern, etc. under 'Job satisfaction'.	B.4.23 Unclear
B.5 For which TAs is the training offered?	B.5.1 Primary school TAs
	B.5.2 Secondary school TAs
	B.5.3 Special school staff only
	B.5.4 Nursery/kindergarten
	B.5.5 Other (Please specify.)
	B.5.6 Unclear

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

Study and location	Broad aims of the study?	Methods used to collect the data?	What do the author(s) conclude about the findings of the study?
Blalock et al. (1992) US, New Mexico	This study describes and evaluates a training programme for assistants who work in regular K1 classrooms and special education classes. The article provided descriptions of the components of the programme, including (p 29): a. programme development b. programme content and presenters c. programme management d. evaluation e. limitations f. benefits	Self-completion questionnaire Post-session evaluations A one-page evaluation form to determine the degree to which participants consider the content and presentation informative (p. 34). Interviews occurred, but not sure how or what type.	'Clearly, the benefits of this type of training program outweigh any logistical problems. The paraprofessionals benefited in terms of developing a better understanding of their roles and the needs of students with disabilities. Potential future roles are also affected, because the mixture of offerings allows participants to increase their awareness of a range of situations and begin training to handle such demands. 'Additionally, the program represents the first major effort to recognize paraprofessionals as an integral part of the educational team, deserving of staff and career development. Professionalization of the Education Assistant position is occurring as a result. Attendance can advance the assistants not only on their career ladders but also on their salary schedules. It may possibly also provide an avenue into teaching. For example, peer teaching is occurring as assistants are trained to train others. 'The school district benefited due to better trained assistants, and teachers benefited because their assistants gained more skills and knowledge needed to serve students as competent team members. Finally, the relationship between the university and school district strengthened as a result of successful collaborative efforts. Such cooperative agreements between labor and management on the district side and higher education are considered by all to be a win/win situation.'
Broadbent and Burgess (2003) Australia (Canberra and Goulbourn archdiocese)	'Progress to date, including the achievement of program outcomes, assessment strategies, and the value of the program in assisting the Special Needs Teacher Assistants to address current issues related to their specific work environments, is considered within an evaluative framework.' (p 2)	Written and verbal feedback, unspecified	Very brief conclusion: The recognition that SNTAs have training needs is important; increased opportunities for both teachers and TAs to engage in training should help to develop the classroom team into a dynamic, cohesive group. Authors draw on Pearson et al. (2003) to support their views.

Edmond (2003) UK	Investigate the impact of school experience on TA professional development	Focus group Group interview One-to-one interview with trainees and tutors Ongoing course observations Self-completion questionnaire after first year of course Online discussions monitored	The course implies a clear role for experience as a contributing source of knowledge based on the notion of the 'reflective practitioner'. But, the author concludes that the role of experience is subject to limitations and constraints. Fundamentally, these derive from a tension which exists between the role of worker (TA) and learner (HE student). This tension, not to say role conflict, finds expression in a number of different ways but essentially can limit the range of experience students are exposed to and can limit the time for, and quality of, reflection on experience. However, what is also apparent from this research is that the workplace as a context for learning is constrained in ways consistent with those identified by other authors. The working relationship between teacher and teaching assistant is a sociocultural contextual factor, which impacts greatly on the learning potential of the workplace. It is also apparent that teaching assistants are influenced by the teaching they observe in constructing their conceptions of good (and bad) practice. Given the particular status of TAs as co-workers, it is interesting to compare the findings of this research with that of Rueda and Monzo. Here too, was found evidence of power differences and teacher constraints influencing the learning of teaching assistants. Limited opportunity for interaction was also an issue for some TAs, although this related to interaction, enabling a reflective dialogue rather than more general interaction. 'Learning is constructed by the learner and mediated by the sociocultural context. Programmes of learning which construe workplace experience as a contributing source of knowledge and skill (as opposed to a context in which skill and knowledge can be demonstrated) need to take account of these individual and sociocultural dimensions of learning from experience.'
Edwards and Clemson (1997) UK: England	They set out to 'contrast key aspects of the training of the STA and the NNEB Nursery Nurse''(p 1), the specialist teaching assistant course (STAC) and the nursery nurse qualification (NNEB).	One-to-one interview Self-completion questionnaire	'The STA course was praised by head teachers, teachers and STAs themselves. They claimed it was a good quality course. 'However, the STA course, unlike the NNEB Diploma, varies in academic level from institution to institution. Some BTEC Nursery Nurses claimed parts of their STA training was a repetition of their Nursery Nurse training. This may have occurred because their STA course was taught by lecturers who have taught Nursery Nurses. There is a potential for two levels of STA training. 'The NNEB training does not have this problem. It is a national course which is taught at the same level with the same guidelines within England. 'Most head teachers noted that there was a conflict with Nursery Nurse and STA roles. In particular, some head teachers felt that the NNEB course content needed to be revised because of the introduction of the STA course. One head teacher claimed STAs were more beneficial to his class teachers of KS 1 and KS 2 children than NNEB Nursery Nurses.

Most head teachers claimed the NNEB qualification was too broad, and some of the course contents were not relevant to schools. Head teachers and teachers also claimed that the NNEB Nursery Nurse did not always have work experience in primary schools in their initial training, whereas all STAs received practical school based training.

'The STA training has introduced a new type of assistant in schools, and it has been noted from Nursery Nurses with the STA qualification, that this training may make Nursery Nurses who seek employment in schools feel their jobs are threatened.'

'The teachers interviewed claim that NNEB Nursery Nurses provide excellent support within schools, but suggest their training does not adequately prepare them for a support role within schools. There is an indication that Nursery Nurses and their duties have been developed by teachers, rather than their Nursery Nurse training preparing them for this role. Therefore, Nursery Nurses, like all assistants deployment in schools is determined by what the teachers' requirements are from an assistant.'

'Nursery Nurses who had gained the STA qualification believed the training helped to develop their support with children, and two teachers thought the STA training was the advanced level of the NNEB Diploma. Therefore, especially with the course part time facility, the training should be promoted to all assistants, not just those who do not hold any child care qualifications.'

While there are clear signs that some of the potential of the STA is starting to be recognised, there is still a need for action in a number of areas. These include a national set of criteria for the gaining of the STA qualification.

The current criteria are too loose in regard of Level and the outcomes for the STA award.

Some discussion occurred about the suitability of distance learning courses in different situations, suggesting that they may come into their own when it is difficult to arrange face-to-face training, where suitable equipment is available.

Over two semesters, Project Impact*Net successfully delivered two live internet-based courses to 51 teachers and paraprofessionals at three sites across the U.S. Teachers and paraprofessionals developed important dispositions, obtained critical knowledge and developed some of the skills necessary to work effectively as instructional teams. All participants successfully completed the courses and obtained substantially higher post-test scores compared with pre-test scores collected. Participants' responses to scenarios suggest they found the courses valuable and developed important dispositions.

Self-completion questionnaire	
Exams	
Hypothetical scenario, including vignettes	

Forbush and Morgan (2004)

USA: Rexburg, Idaho, Turbotville, Pennsylvania, and Brigham City, Utah

'The primary goal of project personnel was to evaluate a live, two-way video and audio system for training teachers and paraprofessionals across the U.S. Project personnel sought to deliver training that enhanced skills for paraprofessionals and their supervising teachers.'

		In addition, participants developed important team-building skills. Course evaluation data indicated that, in most cases, participants rated the quality of the overall course and instructor effectiveness as high as, or higher than, students receiving face to face instruction across courses in the College of Education at USU. Advisory board evaluation data suggested that improvements in course delivery occurred between semesters.
		Through project Impact*NET, paraprofessionals and teachers in three school districts across the U.S. received training that may not have otherwise been available due to obstacles endemic to rural areas. Obstacles include ready access to a university, university instructors, university credit, and a team-building curriculum. Finally, by participating, teachers made progress toward meeting the supervisory requirements of IDEA 1997 and paraprofessionals accrued job-related skills and knowledge and university credit toward either an associates degree or the 47 credit minimum required by NCLB to be identified as highly qualified.
	Self-completion questionnaire	Page 25:
	Exams	'The findings indicate that the two field-tested sets of materials used to teach the courses described in this study represent content objectives that are considered important by both paraeducators and those who provide them with training.'
		'Paraeducators who took the courses gained new knowledge, perspectives, and skills that had direct application in their work assisting in the provision of special education for students with disabilities in inclusive schools.'
		'An equally important finding is that the materials can be successfully used in a variety of course formats with similar positive results. This affords flexibility in delivery to match local needs. This flexibility can be especially important in rural areas given rural issues such as relatively smaller numbers of paraeducators, distance, and a limited pool of qualified instructors. Although the training materials are offered as entry-level, they contain enough content to be valuable for experienced paraeducators as well as those who are relatively new to the role. We concur with the paraeducators who suggested that training of this sort be offered soon after a paraeducator is employed.'
Giangreco et al. (2003a) USA	'The purpose of this article is to share initial field test data based on the use of training materials designed specifically to address entry-level training of paraeducators who assist in the provision of special education in inclusive settings. In part, these data explored the use of the training materials in a typical class format (i.e. participants and instructors met face-to-face for 3 hours per unit, weekly for consecutive weeks) and alternative delivery formats (e.g., intensive summer institute, interactive TV, monthly sessions) in the rural state of Vermont and a rural central school district in upstate New York. These data begin to fill a gap in the available literature by sharing feedback on these paraeducator training materials from the perspectives of both course instructors and paraeducators.	Pages 25-26: 'The literacy skills of paraeducators are widely divergent, ranging from those with a high school diploma, a subset of whom may have struggled academically, to those with bachelor's and master's degrees. Instructors should be prepared to offer readings that account for the broad range of reading levels. Things as seemingly benign as type size and copy quality matter to consumers. Similarly, practicum requirements should be individualized in order to account for both paraeducator characteristics and contextual factors (e.g., role, student groupings, student characteristics).'

	Such information can be useful to school-based personnel interested in training paraeducators in inclusive schools as well as to college and university faculty in their preparation of special educators.' (p 18)

'To share initial field-test data based on the use of training materials designed specifically to address entry-level training of paraeducators who assist in the provision of special education in inclusive setting' | | The materials should be viewed as a starting point from which instructors can modify according to local needs. Additionally, this type of generic training needs to be provided in conjunction with orientation to the school, classroom, and specific students with whom the paraeducator works. Such initial orientation and training should be followed by individually determined ongoing training that matches the paraeducator's job responsibilities.

Special educators should be aware that presenting information on 'exemplary practices' to paraeducators may validate the current experiences for some and possibly expose perceived inadequacies for others. Such realisations may leave paraeducators in awkward positions. In other words, some paraeducators may experience negative reactions when they gain information suggesting that practices they or team members have been engaging in, and have assumed were positive, are presented in a reading or class activity as problematic. For example, what should a paraeducator do if she comes to realise that she has been asked to assume a primary instructional role with a student but no one has provided information about the student's characteristics, shared the IEP goals, provided lesson plans, or offered student-specific training? Paraeducators may be hesitant or unaware of how to address these issues, especially given their status within the school hierarchy.

'Those providing training to paraeducators must be prepared to constructively address such issues. This is one reason why the first unit in this training series is devoted to collaborative teamwork and includes practicum activities designed to establish lines of communication between the paraeducator and other team members. Also, as suggested by some paraeducators, much of the information included in the course materials may be helpful for other team members (e.g. general education teachers).

'Preparing special educators to work in today's increasingly inclusive schools with students who experience the full range of support needs requires that they be prepared to train and direct the work of paraeducators.' |
| Gittman and Berger (1997)

USA | To evaluate the collaboration between a four-year private suburban college and a city public school district in the provisions of teacher education courses to paraprofessional employed by the school district (abstract)

To evaluate the 'impact of teacher education courses on paraprofessionals' job performance, knowledge and goals' (title) | Self-completion questionnaire

Essay | Participants had the ability to benefit from college-level courses even though the courses were their first college-level experience.

There is a possible link between the course experience and pupils' developing awareness of strategies and procedures and enhanced understanding of children.

The findings are consistent with the view that pupils are a fertile population for teacher recruitment.

Page 14:

'Data provided evidence supporting the program's effectiveness. The NYIT/Long Beach collaboration helped individual participants to develop personally and professionally, while the district upgraded the competence and effectiveness of its paraprofessionals, and the college gained enrolment of highly motivated undergraduate students and involvement with the educational community. The researchers concluded that paraprofessionals course experience and their ability to transfer their new knowledge into the classroom, lunchroom and playground resulted in attitudes, behaviours and new professional insight that supported a positive nurturing setting in which children could learn and thrive.' |

Hutchings (1997) UK: Plymouth	Title: 'The impact of a specialist teacher assistant training programme on the development of classroom assistants' 'There are two main focuses: firstly the changes in the working roles and relationships of the STAs; and secondly changes reported in the way they work with children' (p 35).	One-to-one interview	Attempts were made to ensure that STAs see a variety of teaching styles in operation, beyond what they may see in any one classroom. A heavy focus on basic skills possibly means that children's creativity is under-emphasised. Associated training of teachers is needed to ensure that STAs' potential is realised, possibly as part of ITT courses. It is clear that training and development of classroom assistants can make a difference to the quality of learning in KS1 classrooms. The author has refined and extended her own conception of the role of STAs. The author has given some indication of the type of STA training that is likely to be supportive of teachers and children. Page 39: 'It is clear that the training and development of classroom assistants can make a difference to the quality of learning in KS1 classrooms.'
O'Keefe and Tait (2004) UK	Page 28: The intention of this study was to investigate: a. whether or not this qualification will enable the practitioners to feel 'more professional b. what the practitioner perspectives were regarding their possibly changing role c. notions of personal and professional aspirations, motivation d. whether the arguably overt political agenda has influenced their long-term career progression	Focus group Phase 1: One-to-one interview (although an individual interview is an assumption); self-completion questionnaire Phase 1 and phase 2: self-completion report or diary (by implication for phase 2) Phase 2 unclear. May have had other data collection over and above reflective diaries	Reflections on phase 1 findings: Bringing together at a political level of care and education (p 33) 'allowed the practitioners to understand and almost accept the opaqueness of their current situation. They reflected upon the changes in their role, daily tasks and early years culture and language, which currently reflect industrial output rather than humanistic and cognitive processes. This posed an as yet unanswered question. Is the higher education sector and Continuous Professional Development (CPD) within their own organizations sufficiently equipped to cope with a multi-agency/multi-skilled practitioner with sound pedagogic understanding of their role in relation to young children?' Low pay cited as an issue (p 33) Reflections on phase 2 findings: Course provides numerous opportunities...variety of format...enable students to 'earn as they learn...think abstractly and consider the relativism of the multi-faceted aspects and super-complexities of their role' (p 37). Page 37: 'The data reveal common threads of questioning and an element of discontent as a result of the practitioners' increased awareness and understanding of the needs of young children and their families. Their frustrations and commentary on the futility of their efforts must be recognized and understood by those with responsibility in the UK for national strategic planning and for the improvement in care and education of young children.'

| Pye Tait (2006)

UK: England | Page 14:

'The overall purpose of this work was to: support the development of the HLTA programme (national and regional) by providing an evidence base to inform future policy and delivery mechanisms. | Group interview;
Self-completion questionnaire | Page 38, key points and questions which arise:

1. When will such practitioners with increased skills, knowledge, and understanding be recognised and remunerated accordingly?

2. When will the Government respond to the early years activists' callings for a modified curriculum and modified roles for practitioners working with children aged up to six years in settings that are child centred and developmentally appropriate?

3. Rumbold (1990, in Pugh, 2003, p 190) argued that, for young children, the context of learning and the process of learning are as important as what they learn...

4. The creation of the Foundation Stage for children aged three to six years begins to address 'child-centred' and developmentally appropriate provision for this age group. Birth to three matters (Department for Education and Skills, 2002b) has been published in response to growing demand for educare provision for this nation's under threes, and many welcome this addition. Others still feel that the Government falls short by not fully recognising birth to six as the first phase of education and providing curriculum guidance and specially trained staff to work with specific age groups (Pugh, 2003).

Page 39:

'The students, employers and collaborative partnerships involved in the delivery of early years FdAs, are raising concerns over the lack of interest and funding for appropriate remuneration by local early years interrelated Government agencies. Paradoxically, whilst advocates of this national and political development, local authorities, employers and agencies have been slow to support the Senior Practitioner role in employment terms and conditions of service. If they choose to ignore this situation they do so at their political peril. Failure to address such basic needs will result in these unique and higher qualified workers transferring their skills and knowledge to other sectors, thereby replicating the findings of Miles et al. (2000), only this time with a devastating loss of skilled FdA graduates.

Page 76:

'The overall response to the programme seems to be that it is a positive and rewarding experience. TAs and support staff working for an average of eight years in their pre-HLTA role joined the programme because they saw it as an opportunity to gain recognition for their role and to improve promotion prospects. This is particularly true of those on the Assessment Only route but also to a large extent is a prime motivator for those on the full 50-day route and Pilot routes. This reflects the achievements of the programme in aiming to offer extended opportunities for continuing professional development of support staff and recognition of the significant role that they play in children's learning and development. |

	'In order to achieve this aim, the following objectives have directed the research and evaluation:		'Candidates were disappointed that schools were not made more aware of the training and assessment process and consequently not in a position to offer them more support.' Page 77: 'The quality of the provider-based sessions was generally considered to be high, though candidates were disappointed with the amount of constructive criticism and practical tips that providers were able to offer. Inconsistency was again noted between tutors in terms of the advice they offered and what constituted evidence for each Standard. Such experiences have burdened a small number of candidates as they have had additional work to complete as a result of receiving incorrect information.
	'An assessment of candidates' experiences of each stage of the training and assessment programme, from the application and registration to achieving the status and the changes in their role.		
	'Determining the benefits and weaknesses of each of the training routes offered to candidates through candidate feedback and provider evaluations.		'There are aspects of the training which candidates have found to be particularly useful, such as having a mentor, E-learning aspects and individualised training which focused on the INA. However, these training components were not integrated consistently across routes, providers or schools. Some candidates felt that their ICT skills were under-developed and many lacked access to IT facilities. Candidates found it extremely difficult to organise time with their mentor. In terms of INA, some candidates noted that they completed this at the beginning of the course but it was not referred to afterwards.' Page 79: 'Candidates enjoyed mapping their work against the Standards because it enabled them to see the extent of their existing role within schools. Recognition of their role and offering support staff CPD opportunities raised their confidence and self-esteem. They help candidates see that they often only required additional training or experience in minimal areas, including whole class teaching and having direct contact with parents and carers.
	'The commissioned work was designed to uncover aspects of the HLTA programme that were perceived by candidates and providers to 'work well' and in doing so, to identify areas of good practice which can be adopted and adapted by training providers across the country and inform national delivery. Its purpose is also to identify areas of provision which might require some development and change in order to improve the service, the experience of candidates and overall outcomes.'		'Candidates found some Standards are difficult to evidence though and suggested it was due to the type of school they work in or the nature of their role which limited their experiences and therefore the opportunities to gather relevant evidence. Both responses to the survey and focus group attendees suggested that section one of the Standards was the most difficult. For instance, they felt that working in the secondary phase, gave little opportunity to liaise with parents and carers. Also, many candidates reported that they do not usually take responsibility for planning out-of-school activities as this has never been part of their role, so were unable to provide evidence.' Chapter 8 presents recommendations, summarised in the executive summary (pp 9-10).
Romano (1999) USA	'Prevention training programs for paraprofessional school personnel are examined in this article. Prevention training for the reduction of student alcohol and other drug use, incorporating a student well-being model, is described and evaluated.' (p 373)	Three specific questionnaires were used: Participation satisfaction questionnaire Knowledge Questionnaire Self-efficacy questionnaire	'School districts employ paraprofessional staff to make important contributions to the educational mission for their districts. These employees often come to their positions with relatively little formal training and have limited professional, in-service opportunities once they are in their positions. Further, the nature of their positions often puts them in close and regular contact with students …Therefore, it behoves districts to consider the staff development needs of paraprofessionals and to include them in training opportunities … The evaluation of the SWB training showed that paraprofessionals were very satisfied with the training and they increased their self-efficacy. The Student Wellbeing training provides one vehicle through which paraprofessionals can increase their skills in enhancing youth development and feel appreciated as valued members of the educational enterprise through a greater sense of self-efficacy.' (pp 384-385)

Ryall and Goddard (2003) UK	This study describes and evaluates two distinct programmes for support staff and highlights key issues for school staff to reflect upon and act upon.	Not stated / unclear	Page 77: 'Evaluations of the STA training by course members and teacher mentors over the past seven years have clearly and powerfully identified the benefits accrued by this training for all those involved, or affected by it, namely the TAs, the teachers, the pupils and the school itself. The Government's commitment to significantly increase the number of TAs, coupled with development of an overall national training framework for TAs, reinforced the need for good training opportunities for all TAs. 'Our involvement in the case studies has resulted in some commonality of findings. It has enabled us to identify the needs of support staff and consequently key issues for schools to address in the management support and training for this group. In order to maximise potential support staff, need: • respect for support staff as persons and as professionals • support from all staff, but particularly the senior management team, particularly when they are faced with difficult situations • information on working practices, policies and children's special needs • inclusion in development and ownership of policies • regular open communication channels • clear role definition, including a job description • regular review of training needs and current performance thorough appraisal • training as an investment in the individual and for the schools 'The authors believe that investment in the training of support staff is worthwhile both for the individual and the organisation. It should be viewed as a right and as an intrinsic part of the mission of the school. Good quality training results in valuable professional and personal change in trainees but it also demands change in the organisation, as has been highlighted in this research paper. The school has to reflect on the implications emerging from the training and modify their structures and procedure to maximise benefits.'
Sack and McLean (1997) USA	'Developing Communicative Interactions (DCI), a data-based staff training program that supports the development of a prescribed set of interaction skills by interacting communication partners is reviewed' (p 151)	Self-completion questionnaire Structured evaluation form (probably in the form of a questionnaire) which consists of 13 items on a five-point scale to understand the impact of training on participants' future interactions	Page 157: 'If the type of training advocated is to be funded as a support service for persons with severe disabilities, additional research is needed to specifically document the effects of such training on the communication of those individuals. 'In this article, we have argued that training provided to communication partners can be a highly cost-effective way of improving the communication of persons with the most severe disabilities. We anticipate that the need for high-quality, individualised training material addressing the needs of partners will grow in coming years as support systems for persons with severe disabilities increasingly involve natural supports and paraprofessional level staff.'

Study	Description	Methods	Findings
Swann and Loxley (1998) UK, England	The abstract (1998: 141) has the following: 'This paper reports on an analysis of the impact of a course of school-based training for primary-school classroom assistants in ten local education authorities, under the aegis of the Department for Education and Employment Specialist Teacher Assistant Programme. Students (n = 155) who successfully completed the course returned a questionnaire in which they provided their assessment of the impact of the course on their personal and professional development, and on their degree of participation in the teaching and learning process in school.' The analysis specifically focused on: • TAs' professional and personal development - what effect did the course have upon their knowledge, skills and understanding of their work within the classroom, their confidence in the classroom, and their ability to perform new tasks and to engage in educational discourse? • TAs' levels of participation within the workplace - had the course resulted in any changes in their involvement in the teaching and learning process?	Self-completion questionnaire, structured. TAs rated the change in their knowledge and understanding on a six-point scale, from 0 to 5, where 0 meant no increase and 5 meant a very great increase.	'The great majority of students who completed the Open University's STA course perceived themselves as having gained considerable new knowledge, understanding, skills and confidence as a result of the training. However, a significant proportion of these students reported that there had been no change in their involvement in many aspects of the teaching and learning process in their schools. Furthermore, evidence collected from interviews with a small sample of students suggest that increases in participation are often limited to the classroom in which the student work alongside their mentor (Loxley, 1997).'
Terrell et al. (2004) UK: England	This case study research looks at the impact of an innovative, fulltime online learning programme at graduate level for support staff, undertaken in an online learning community, called 'Ultraversity'. Specifically, the paper is concerned with the impact the first year of study has had upon the school support staff, and on their workplace in particular: • development of knowledge and skill in the use of ICT • understanding of teaching and learning • changed perception of role • perception of self, career, and aspirations	One-to-one interview Telephone interviews Self-completion questionnaire Online surveys Selected students' work.	It is clear that the Ultraversity degree programme is having a large impact on researchers as individuals, as would be expected on any degree course undertaken. However, growing individual confidence is also impacting on support staff's roles within the workplace by making them feel confident, empowered and motivated to innovate and stimulate change, and to question problems, issues and approaches. A growing confidence and understanding of ICT and developing ICT skills are also impacting on how they use ICT in the classroom. Opportunities for communication provided by this degree are the means of opening the door between workplace colleagues, allowing greater collaboration on research, providing insight, and improving learning and behaviour for pupils. In some, but not all, school teachers and other adults are seeing the opportunities this course is providing and are making changes to their practice as a result of research that, in some cases, has given quite surprising insight into a situation.

The confidence of researchers to open dialogue, to challenge existing practices and approaches to issues is bringing adults together in a collaborative approach to issues, resulting in a greater role and status with more responsibilities for some researchers.

Communication is the key to the impact of this degree with pupils as well as adults. Involving pupils in the research and a better understanding of issues that undermine pupil learning and behaviour are resulting in an improved respect for the teaching assistant role by pupils. An improved ability and confidence to talk issues through with pupils of all ages allows greater empathy and improved relationships to develop.

Understanding and skills, combined with a greater willingness to open dialogue with colleagues and pupils, are providing opportunities for collaborative approaches to issues of concern within the organisation. The last word must belong to this researcher:

[Ultraversity has] made me look at things that the ordinary Inset days do not. Most of the Inset days are geared at the level of the teaching staff and most of the training goes above our heads. They are not TA friendly and not enough time is given to explain the whys or wherefores of the subject. Ultraversity gets you to look at the curriculum with a critical eye and gets you to question everything. More than that, it expects you to explain and find out the results yourself. It is like being a scientist and you are experimenting with ideas until you can come up with the right formula. They also expect you to come up with the correct conclusion. The course sets challenges which are both interesting but also expands your ability and confidence.

'Both schools managed to maintain good levels of participation, but the headteacher's direct involvement at School B was particularly helpful in enabling participants to develop the level their reflective practice, project work and portfolio building to the standards required for the ACoT award. The involvement of teaching staff in supporting the project was somewhat more developed at School B than School A.' (p 28)

The College had a challenge of fulfilling two roles: one as an early facilitator and one as the accrediting body .... At School B, through the keen involvement of the headteacher, that balance was achieved. While School B is by no means unique, School A is perhaps more typical in leaving the support staff somewhat to their own devices. It is clear that in those circumstances, more external support is necessary.' (p 28)

- online communication, networking and community support
- development of reflective practice
- impact on other adults in workplace and working relationships with other colleagues
- impact on pupils
- role of workplace advocate

This paper summarises the development opportunities which were created by the College of Teachers, as well as reports on the research outcomes. The research aims appear to be broad and objectives are not clear in the introduction section.

'The purpose of the project was to support the more general and longer term of nurturing of the skills and confidence of school support staff, through reflective practice and peer group dialogue. To that end, the College supported the establishment of school based practice development groups, and at the same time investigated how such groups could be best be sustained by school senior managers.' (p 24)

One-to-one interview

Self-completion report or diary

Assignments were scrutinised for level of achievement.

School baseline data (not clear what this is about)

Not clear how interviews were carried out - whether all the cohort was interviewed or just a sample.

Wilkins (2004)

UK

School A: East Midlands

School B: South Yorkshire

'The research element of this project aimed to investigate the experiences of the practice of development groups, to explore the benefits of this method of professional development, and to attempt to identify the factors which helped or hinder its success' (p 25). 'The research strand aimed to identify lessons for school leaders but also lessons regarding the provision of external support for this kind of activity' (p 25).	Portfolios: TAs prepared this in the third term of their attendance to the programme.	'Setting the correct level of the academic expectations of the early part of the programme is not easy because of the diversity of the individuals who work as support staff: in the pilot project as a whole, criticisms that it is 'too academic' have been balance by criticisms that it is 'too easy'.' (p 28) 'The project has established that, in the right circumstances and given the right support, school-based practice development groups linked to external recognition can be an effective means of raising the self-esteem and confidence of support staff. It is a cost-effective form of professional development in that most of the developmental activity is fully integrated into normal work.' (p 28)

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