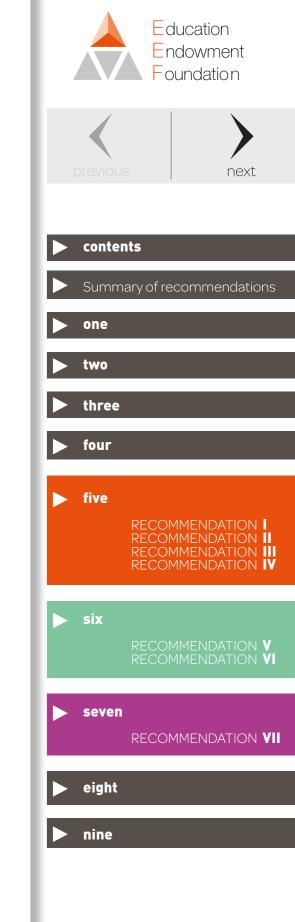
### Making Best Use of Teaching Assistants Guidance Report

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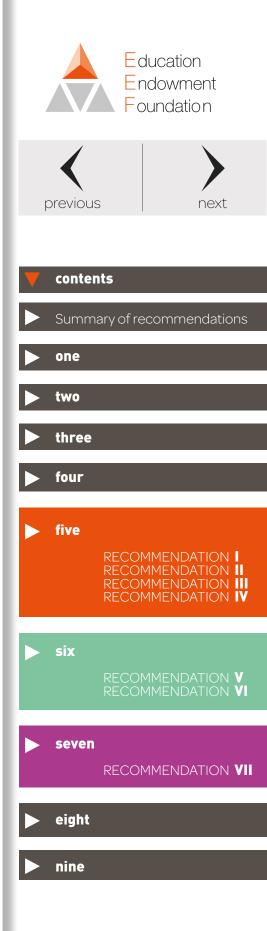
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# summary of recommendations

This Education Endowment Foundation (EEF) Guidance Report contains seven recommendations to maximise the impact of teaching assistants (TAs) in primary and secondary schools, based on the best available research evidence. They provide a framework by which schools can transform the way TAs are deployed and supported, to help them thrive in their role and improve outcomes for pupils.

The recommendations are arranged in three sections: • Recommendations on the use of TAs in everyday classroom contexts Recommendations on TAs delivering structured interventions out of class
Recommendations on linking learning from work led by teachers and TAs.

Overleaf is a full summary of our recommendations.

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### **RECOMMENDATIONS ON THE USE OF TEACHING** ASSISTANTS IN EVERYDAY CLASSROOM CONTEXTS

## see section five

### **RECOMMENDATIONS ON THE USE** OF TEACHING ASSISTANTS IN DELIVERING STRUCTURED INTERVENTIONS OUT OF CLASS

TAs should not be used as an informal teaching resource for lowattaining pupils

The evidence on TA deployment suggests schools have drifted into a situation in which TAs are often used as an informal instructional resource for pupils in most need. Although this has happened with the best of intentions, this evidence suggests that the status quo is no longer an option. School leaders should systematically review the roles of both teachers and TAs and take a wider view of how TAs can support learning and improve attainment throughout the school.

Use TAs to add value to what teachers do, not replace them

If TAs have a direct instructional role it is important they supplement, rather than replace, the teacher - the expectation should be that the needs of all pupils are addressed, first and foremost, through high quality classroom teaching.

Schools should try and organise staff so that the pupils who struggle most have as much time with the teacher as others. Breaking away from a model of deployment where TAs are assigned to specific pupils for long periods requires more strategic approaches to classroom organisation.

Where TAs are working individually with lowattaining pupils the focus should be on retaining access to high-quality teaching, for example by delivering brief, but intensive, structured interventions.

Use TAs to help pupils develop independent learning skills and manage their own learning

New research has shown that improving the nature and quality of TAs' talk to pupils can support the development ofindependent learning skills, which are associated with improved learning outcomes. TAs should, for example, be trained to avoid prioritising task completion and instead concentrate on helping pupils develop ownership of tasks.

Ensure TAs are fully prepared for their role in the classroom

Schools should provide sufficient time for TA training and for teachers and TAs to meet out of class to enable the necessary lesson preparation and feedback.

Creative ways of ensuring teachers and TAs have time to meet include adjusting TAs' working hours (start early, finish early), using assembly time and having TAs join teachers for (part of) Planning, Preparation and Assessment (PPA) time.

During lesson preparation time ensure TAs have the essential 'need to knows':

Concepts, facts, information being taught

 Skills to be learned, applied, practised or extended

Intended learning outcomes

Expected/required feedback.

Use TAs to deliver highquality one-toone and small group support using structured interventions

Research on TAs delivering targeted interventions in one-to-one or small group settings shows a consistent impact on attainment of approximately three to four additional months' progress (effect size 0.2-0.3). Crucially, these positive effects are only observed when TAs work in structured settings with highquality support and training. When TAs are deployed in more informal, unsupported instructional roles, they can impact negatively on pupils' learning outcomes.

Adopt evidence-based interventions to support TAs in their small group and one-to-one instruction

Schools should use structured interventions with reliable evidence of effectiveness. There are presently only a handful of programmes in the UK for which there is a secure evidence base, so if schools are using programmes that are 'unproven', they should try and replicate some common elements of effective interventions:

- Sessions are often brief (20-50mins), occur regularly (3-5 times per week) and are maintained over a sustained period (8-20 weeks). Careful timetabling is in place to enable this consistent delivery
- TAs receive extensive training from experienced trainers and/ or teachers (5–30 hours per intervention)
- The intervention has structured supporting resources and lesson plans, with clear objectives
- TAs closely follow the plan and structure of the intervention
- Assessments are used to identify appropriate pupils, guide areas for focus and track pupil progress. Effective interventions ensure the right support is being provided to the right child
- Connections are made between the out-of-class learning in the intervention and classroom teaching (see Recommendation vii).

see section

six

RECOMMENDATIONS **ON LINKING LEARNING** FROM WORK LED BY **TEACHERS AND TAs** 

Ensure explicit connections

Interventions are often quite separate

from classroom activities. Lack of time

for teachers and TAs to liaise allows

relatively little connection between

what pupils experience in, and away,

ensure that learning in interventions

is consistent with, and extends, work

inside the classroom and that pupils

understand the links between them. It

should not be assumed that pupils can

consistently identify and make sense

of these links on their own.

from, the classroom. The key is to

are made between learning

from everyday classroom

teaching and structured

interventions

see section seven

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TA Guidance Report

# one

### Introduction

# 1.1

### What is this guidance for?

This EEF Guidance Report is designed to provide practical, evidence-based guidance to help primary and secondary schools make the best use of teaching assistants<sup>1</sup> (TAs). It contains seven recommendations, based on the latest research examining the use of TAs in classrooms.

The guidance draws predominately on studies that feed into the Teaching and Learning Toolkit, produced by the Education Endowment Foundation in collaboration with the Sutton Trust and Durham University [1]. Key studies include new findings from EEF-funded evaluations and the Deployment and Impact of Teaching Assistants (DISS) research programme [2]. As such, it is not a new study in itself, but rather is intended as an accessible overview of existing research with clear, actionable guidance. Although the evidence base is still developing around TAs, there is an emerging picture from the research about how best to deploy, train and support them to improve learning outcomes for pupils.

The guidance begins by summarising the way in which TAs are typically used in English schools, with 'key findings' drawn from the latest research. This is followed by seven recommendations to guide schools in maximising the impact of TAs. These are arranged in three sections: a) recommendations on the use of TAs in everyday classroom contexts; b) recommendations on TAs delivering structured interventions out of class; and c) recommendations in linking learning in everyday classroom contexts and structured interventions. Each of the recommendations contains information on the relevant research and the implications for practice. At the end of the guidance there are some ideas and strategies on how schools might act on the evidence.

As well as presenting a snapshot of the current evidence, the report also highlights where further research is needed (see Boxes 1 and 3). Details of the approach used to develop the guidance are available in Section 9, 'How has this guidance been compiled?'

# 1.2

### Who is this guidance for?

This guidance is aimed primarily at This guidance highlights the need headteachers and other members of for careful planning when rethinking the use of TAs, taking into account the Senior Leadership Team (SLT) in both primary and secondary schools. the local context as well as the wider Research suggests that rethinking the evidence base. There is no 'one size fits role of TAs is much more likely to be all' solution; as a school, you will need to arrive at solutions that draw on the successful if senior leaders coordinate action, given their responsibility for research and apply them appropriately managing change at school level and within your context. At the same making decisions on staff employment time, it is important to consider the and deployment. As Special recommendations carefully and how Educational Needs Coordinators faithfully and consistently they are (SENCos) often play an important role applied in your school. in coordinating TAs, it is recommended they are included in this process. Inevitably, change takes time, and we recommend taking at least two terms School governors should also find the guidance helpful in supporting the to plan, develop and pilot strategies on a small scale at first, before rolling out SLT with the deployment of staff and resources across the school. While the new practices across the school. Gather guidance draws primarily on research support for change across the school conducted in mainstream settings, it is and set aside regular time throughout the anticipated that it will also be relevant year to focus on this project and review to special schools. progress.

Class teachers should also find this guidance useful, as they have the day-to-day responsibility for deciding how to make the most effective use of the TAs with whom they work. Finally, although this guidance is not specifically intended for TAs it is hoped they will also find it of relevance and interest, given they are often directly involved in the change process.

# 1.3

### Using this guidance

Section 8. Acting on the Evidence, suggests a range of strategies and tools that you might find helpful in planning, structuring and delivering a wholeschool approach to improving the use of teaching assistants.

<sup>1</sup> In line with common usage, we use the term 'teaching assistant' (TA) to cover equivalent classroom- and pupil-based paraprofessional roles, such as 'learning support assistant' and 'classroom assistant'. We also include 'higher level teaching assistants' in this definition.



**R** While the proportion of teachers in mainstream schools in England has remained relatively steady over the last decade or so, the proportion of full-time equivalent TAs has more than trebled since 2000: from 79,000 to 243,700. **9** 

# tWO

### Background context

# 2.1

### The rise and rise of TAs

While the number of teachers in mainstream schools in England has remained relatively steady over the last decade or so, the number of full-time equivalent TAs has more than trebled since 2000: from 79,000 to 243,700 [3]. Presently, a guarter of the workforce in mainstream schools in England is comprised of TAs: 34% of the primary workforce, and 15% of the secondary school workforce. On the basis of headcount data, there are currently more TAs in English nursery and primary schools than teachers: 257,300 vs. 242,300<sup>2</sup>. About 15% of TAs in publicly funded schools have higher-level teaching assistant (HLTA) status.

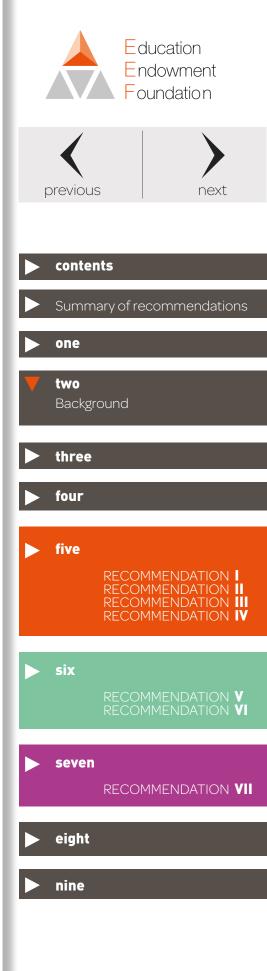
A key reason for increasing the number of TAs was to help deal with problems with teacher workloads. In 2003, the government introduced The National Agreement to help raise pupil standards and tackle excessive teacher workload, in large part via new and expanded support roles and responsibilities for TAs and other support staff.

The growth in the numbers of TAs has also been driven by the push for greater inclusion of pupils with special educational needs and disabilities (SEND) into mainstream schools, with TAs often providing the key means by which inclusion is facilitated. Given that SEN pupils and low-attaining pupils are more likely to claim Free School Meals (FSM)<sup>3</sup>, TAs also work more closely with pupils from low-income backgrounds. Indeed, expenditure on TAs is one of the most common uses of the Pupil Premium in primary schools, a government initiative that assigns funding to schools in proportion to the number of pupils on FSM [4].

A combination of these factors means that schools now spend approximately £4.4 billion each year on TAs, corresponding to 13% of the education budget. This presents an excellent opportunity for improvements in practice, with such a large and already committed resource in place. The recommendations in this guidance recognise the fact that schools are operating within already tight budgets; however, noticeable improvements in pupil outcomes can be made through the thoughtful use of existing resources, without significant additional expenditure.

<sup>2</sup> In secondary schools, the headcount ratio is roughly one TA to every three teachers. The size of the workforce can be explained by the fact that 92% of nursery/primary TAs work part-time, compared to 24% of teachers.

<sup>3</sup> 30% of pupils with special educational needs also claim Free School Meals.



# three

What is the typical impact of TAs in schools?

What is the impact of TAs on pupils' academic attainment?

Key finding – The typical deployment and use of TAs, under everyday conditions, is not leading to improvements in academic outcomes

The largest and most detailed study investigating the deployment and impact of TAs in schools to date is the Deployment and Impact of Support Staff (DISS) project, conducted between 2003 and 2008 in UK schools [2]. The analysis studied the effects of the amount of TA support – based on teacher estimates of TA support and systematic observations – on 8,200 pupils' academic progress in English, mathematics and science. Two cohorts of pupils in seven age groups in mainstream schools were tracked over one year each. Other factors known to affect progress (and the allocation of TA support) were taken into account in the analysis, including pupils' SEN status, prior attainment, eligibility for Free School Meals, English as an Additional Language and deprivation.

results were in a negative direction and there were no positive effects of TA support for any subject or for any year group. Those pupils receiving the most support from TAs made less progress than similar pupils who received little or no support from TAs. There was also evidence that the negative impact was most marked for pupils with the highest levels of SEN, who, as discussed, typically receive the most TA support.

Other research exploring the impact of TAs in everyday classroom contexts supports these findings. In the US, evidence from the Tennessee Student Teacher Achievement Ratio (STAR) project found there was no beneficial effect on pupil attainment of having a 'teacher aide' in kindergarten to Grade 3 classes (equivalent of Years 1-4)[5]. In other UK studies, pupils with SEN assigned to TAs for support have been shown to make less progress than their unsupported peers, in both literacy and maths [6,7].

### **R** There is emerging evidence that TAs can provide noticeable improvements to pupil attainment.

The results were striking: 16 of the 21

Importantly, these scenarios hide a range of findings. As we shall see, there is emerging evidence that TAs can provide noticeable improvements to pupil attainment. Here, TAs are working well alongside teachers in providing excellent complementary learning support, although, importantly, this is happening in a minority of classrooms and schools<sup>4</sup>.

<sup>4</sup> The DISS study was completed in 2008. Although there is no exact comparison available, experience and evidence gained during the more recent Effective Deployment of Teaching Assistants (EDTA) and Making a Statement (MAST) studies, conducted between 2010 and 2013, suggests the use of TAs has not changed substantially since then.

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# 3.2

What is the impact of TAs on pupil behaviour, motivation and approaches to learning?

Key finding – There is mixed evidence to support the view that TA support has a positive impact on 'soft' outcomes. Some evidence suggests TA support may increase dependency

Teachers report that assigning TAs to particular pupils for individual support usually those with problems connected to learning, behaviour or attention – helps them develop confidence and motivation, good working habits and the willingness to finish a task [2]. Other research has identified the benefits of TAs more in terms of the range of learning experiences results showed little evidence that the provided and the effects on pupil motivation, confidence and self-esteem, and less in terms of pupil progress [8].

On the other hand, there are concerns that TAs can encourage dependency, because they prioritise task completion rather than encouraging pupils to think for themselves [9]. Taken further, it has been argued that over-reliance on one-to-one TA support leads to a wide range of detrimental effects on pupils, in terms of interference with ownership and responsibility for learning, and separation from classmates [10].

The DISS project examined the effect of the amount of TA support on eight scales representing 'Positive Approaches to Learning' (PAL), that is: distractibility; task confidence; motivation; disruptiveness; independence; relationships with other pupils; completion of assigned work; and following instructions from adults. The amount of support pupils received from TAs over a school year improved these dimensions, except for those in Year 9 (13–14-year-olds), where there was a clear positive effect of TA support across all eight PAL outcomes.

Nevertheless, the evidence on the impact who struggle most has a direct impact of TAs on non-academic outcomes is thin and largely based on impressionistic data. This balance between a TA's contribution to academic and non-academic outcomes needs more attention (see Box 1. What research is there on the use of TAs in everyday classroom contexts?).

3.3

What is the impact of TAs on teachers and teaching?

Key finding – TAs help ease teacher workload and stress, reduce classroom disruption and allow teachers more time to teach

Although the effects of TAs on pupils' academic learning are worrying, it is worth noting that there is good evidence that delegating routine administrative tasks to TAs frees teachers up to focus more time on the core functions of teaching – such as planning, assessment and time spent in class [2,11]. Benefits are also found in terms of reducing workload and improving teachers' perceptions of stress and job satisfaction [2].

Teachers are largely positive about the contribution of TAs in classrooms, reporting that increased attention and support for learning for those pupils on their learning, and an indirect effect on the learning of the rest of the class [2]. Results from observations made as part of the DISS project confirm teachers' views that TAs had a positive effect in terms of reducing disruption and allowing more time for teachers to teach [2].





# four

How are TAs currently being used in schools? Explaining the effects of TA support on learning outcomes

In order to understand the impact of TAs on pupils' learning outcomes it is important to look at how they are currently being used in schools.

The DISS project revealed ambiguity and variation in the way TAs are used both within and between schools. In one sense TAs can help pupils indirectly, by assisting the school to enhance teaching (e.g. by taking on teachers' administrative duties), but as we shall see, many TAs also have a direct teaching role, interacting daily with pupils (mainly those with learning and behavioural needs), supplementing teacher input and providing one-to-one and small group support.

Simply put, research suggests it is the decisions made about TAs by school leaders and teachers, not decisions made by TAs, that best explain the effects of TA support in the classroom on pupil progress. In other words, don't blame TAs!

Key finding – TAs spend the majority of their time in an informal instructional role supporting pupils with most need

A striking finding from the DISS study was the observation that the majority of TAs spent most of their time working in a direct, but informal, instructional role with pupils on a small group and oneto-one basis (both inside and outside of the classroom). Results were also clear about which pupils TAs worked with. TA support was principally for pupils failing to make expected levels of progress, or those identified as having a Special Educational Need (SEN). TAs hardly ever supported average or higherattaining pupils.

Although this arrangement is often seen as beneficial for the pupils and the teacher – because the pupils in need receive more attention, while the teacher can concentrate on the rest of the class - the consequence of this arrangement is a 'separation' effect. As a result of high amounts of (sometimes, near-constant) TA support, pupils with the highest level of SEN spend less time in whole-class teaching, less time with the teacher, and have fewer opportunities for peer interaction, compared with non-SEN pupils [12,13].

The net result of this deployment is that TAs in mainstream schools regularly adopt the status of 'primary educator' for pupils in most need.

Key finding – TAs tend to be more concerned with task completion and less concerned with developing understanding

4.2

Previous studies have suggested a number of positive features regarding the nature and quality of TAs' interactions with pupils: interactions are less formal and more personalised than teacherto-pupil talk; they aid pupil engagement; help to keep them on-task; and allow access to immediate support and differentiation [14]. However, other research has highlighted the unintended consequences of *high* amounts of TA support (see Section 3.2 above) [10].

Evidence from classroom recordings made during the DISS project revealed that the quality of instruction pupils received from TAs was markedly lower compared to that provided by the teacher. TAs tended to close talk down and 'spoon-feed' answers [14,15]. Over time, this can limit understanding, weaken pupils' sense of control over their learning and reduce their capacity to develop independent learning skills.

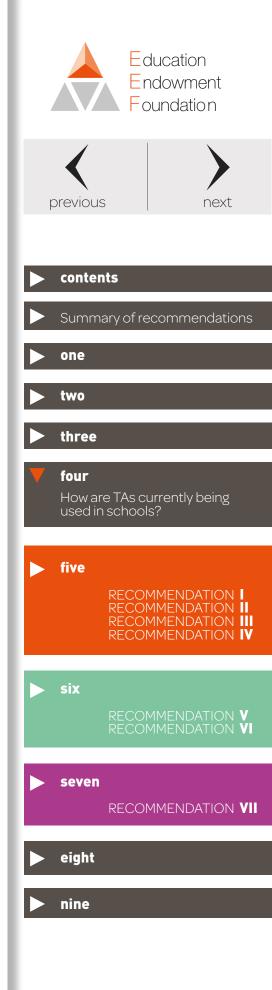
Key finding – TAs are not adequately prepared for their role in classrooms and have little time for liaison with teachers

4.3

There was clear evidence from the DISS project that TAs frequently come into their role unprepared, both in terms of background training and day-to-day preparation. There are no specific entry qualifications for TAs and many do not receive any induction training. TAs also have different levels of formal qualifications when compared with teachers; the majority of TAs, for example, do not have an undergraduate degree [2]. This level of training is important considering their common deployment as 'primary educators' for low-attaining and SEN pupils. It is often argued – quite sensibly - that TAs' qualifications should make a difference to pupil outcomes, but there is no evidence that this is the case [16,17,18]. Schools still need to think more strategically about TA deployment to make the most of individuals' qualifications and skills.

On a day-to-day level, the DISS project results revealed clear concerns about how TAs are prepared to support pupil learning. The vast majority of teachers (especially secondary teachers) reported having no allocated planning or feedback time with the TAs they worked with and no training in relation to managing, organising or working with TAs.

Communication between teachers and TAs is largely ad hoc, taking place during lesson changeovers and before and after school. As such, conversations rely on the goodwill of TAs. Many TAs report feeling underprepared for the tasks they are given. They 'went into lessons blind' and had to 'tune in' to the teacher's delivery in order to pick up vital subject and pedagogical knowledge, tasks and instructions [2].



The research outlined above suggests that the ways in which TAs are often used in schools do not represent a sound educational approach for low-attaining pupils or those with SEN. Indeed, it has led to questions about the overall cost-effectiveness of employing TAs in schools. Encouragingly, research is showing that schools can make relatively straightforward changes that enable TAs to work much more effectively, in ways that can have a potentially transformative effect on pupil outcomes.

The recommended strategies outlined in this section focus on maximising the use of TAs in everyday classroom contexts. They are based heavily on follow-on studies from the DISS project, in particular the Effective Deployment of Teaching Assistants (EDTA) project, which worked with schools to develop alternative ways of using TAs that worked for both staff and pupils, and dealt with the challenges identified above [19]. Further information on this research is available in Box 1, What evidence is there on the use of TAs in everyday classroom contexts?

## 5.1

**R** Addressing the current

issue. School leaders must

school improvement. **99** 

situation is a school leadership

rigorously define the role of TAs

and consider their contribution

in relation to the drive for whole

Recommendation I – TAs should not be used as an informal teaching resource for low-attaining pupils

A key conclusion arising from the evidence on TA deployment is that they are often used as an informal teaching resource for pupils in most need. Though this has happened with the best of intentions, the status quo in terms of TA deployment is no longer an option. *Addressing the current situation is a school leadership issue*. School leaders should rigorously define the role of TAs and consider their contribution in relation to the drive for whole-school improvement. These decisions on deployment are the starting point from which all other decisions about TAs flow.

Crucially, the starting point is to ensure low-attaining pupils and those with SEN receive high quality teaching, as the evidence shows that it is these children who are most disadvantaged by current arrangements. School leaders should not view the process of rethinking their TA workforce as a substitute for addressing the overall provision made for disadvantaged pupils, lower-attainers and those with SEN. The expectation should be that the needs of *all* pupils must be addressed, first and foremost, through excellent classroom teaching.

five

Evidence-based guidance on the effective use of TAs under everyday classroom conditions One central issue facing school leaders is to determine the appropriate pedagogical role for TAs, relative to teachers. If the expectation is that TAs have an instructional teaching role it is important they are trained and supported to make this expectation achievable. There may also be a case for some TAs to have a full or partial role in non-pedagogical activities, such as easing teachers' administrative workload or helping pupils to develop soft skills. Ultimately, the needs of the pupils must drive decisions around TA deployment.

It might be that the roles of some TAs need to change wholly or in part. This is why a thorough audit of current arrangements is advised to define the point from which each school starts, and the goals of reform. Section 8, Acting on the Evidence outlines a number of tools and strategies that schools have successfully used to review the use of TAs and develop more effective practices.

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# 5.2

Recommendation II – Use TAs to add value to what teachers do, not replace them

If TAs are to play a direct instructional role, it is important to ensure they supplement, rather than replace, the teacher. Schools can mitigate 'separation effects' by ensuring the pupils who struggle most have no less time with the teacher than others. Rather than deploy TAs in ways that replace the teacher, TAs can be used to enable teachers to work more with lower-attaining pupils and those with SEN.

Breaking away from a model of deployment where TAs are assigned to specific pupils for long periods requires more strategic approaches to classroom organisation. For example, setting up the classroom in such a way that on day one, the teacher works with one group, the TA with another, and the other groups complete tasks collaboratively or independently. Then, on day two, the adults and activities rotate, and so on through the week. In this way, all pupils receive equal time working with the teacher, the TA, each other and under their own direction.

Teachers also need to give thought to how to make TAs a more visible part of teaching during their whole-class delivery, for example by using them to scribe answers on the whiteboard, or to demonstrate equipment. This can help the teacher maintain eye contact with the class.

Where TAs do work with pupils individually or in groups, it is essential that they are equipped with the skills to support learning, consistent with the teachers' intentions (see Recommendation III).

## 5.3

Recommendation III – Use TAs to help pupils develop independent learning skills and manage their own learning

Schools in the EDTA project explored how TAs can help all pupils develop essential skills underpinning learning, such as self-scaffolding: encouraging pupils to ask themselves questions that help them get better at managing their learning. Recent research shows that improving the nature and quality of TAs' talk to pupils can support the development of independent learning skills [20], which are associated with improved learning outcomes [1]. Figure 1 shows a range of ways in which TAs can inhibit, as well as encourage, pupils' independent learning skills. An example of a simple questioning matrix to help TAs structure open and closed questions is shown in Figure 2.

Whole-class initiatives and teaching methods need to be understood and supported by *all* staff. If a specific pedagogy is being used, such as formative assessment or cooperative learning, TAs should be trained so they fully understand the principles of the approach and the techniques required to apply it.

Figure 1. TA teaching strategies that encourage and inhibit independent learning

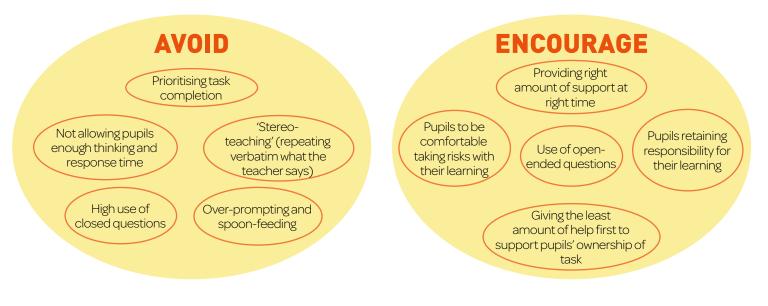
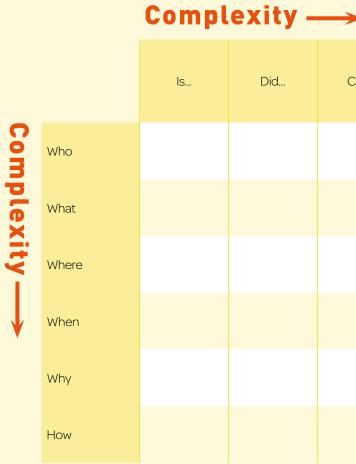


Figure 2. A framework that TAs can use for more effective



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Recommendation IV – Ensure that TAs are fully prepared for their role in the classroom

Finding extra time within schools is, of course, never easy. Nevertheless, without adequate out-of-class liaison it is difficult for teachers and TAs to work in the complementary way described above.

In the EDTA project, schools found creative ways to ensure teachers and TAs had time to meet, improving the quality of lesson preparation and feedback [19]. For example, headteachers changed TAs' hours of work so that they started and finished their day earlier, thereby creating essential liaison time before school. Table 1 summarises a range of strategies that schools have used to enable teacher-TA interactions out of class, as well as some key 'need to knows' for TAs in advance of lessons.

### Table 1. Changes made by schools to help TA preparedness

TEACHER-TA LIAISON	ENSURE TAS HAVE THE LESSON PLAN 'NEED TO KNOWS' IN ADVANCE
Adjust TAs' working hours: start early, finish early	Concepts, facts, information being taught
Timetabling: use assembly time	Skills to be learned, applied, practised or extended
TAs join teachers for (part of) PPA time	Intended learning outcomes
SLT set expectations for how liaison time is used	Expected/required feedback

### **Box 1.** *Evidence Summary*

### What evidence is there on the use of TAs in everyday classroom contexts?

Much of the research investigating the use of TAs in everyday classroom environments is small-scale and describes what TAs do in the classroom. Almost all of it has at least some focus on how TAs are employed and deployed to facilitate the inclusion of children with SEN [21,22,23]. Early research looked at teamwork between teachers and other adults, such as parent-helpers and TAs [24,25], and led to a useful collaborative study with schools on alternative ways of organising classrooms [26]. Both the qualitative and quantitative work on impact relies principally on impressionistic data from school staff.

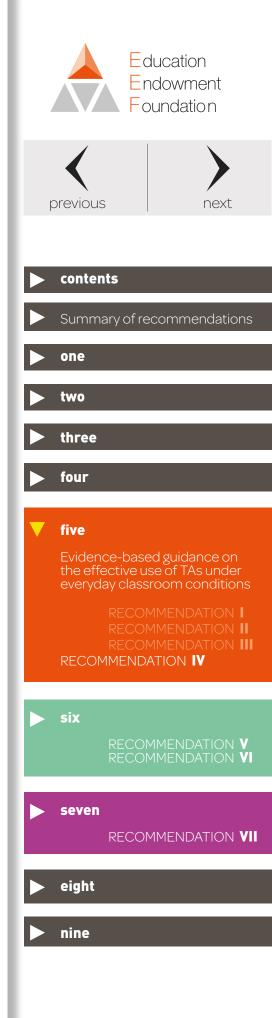
Findings from large-scale systematic analyses investigating the effects of TAs on learning outcomes challenge the assumption that there are unqualified benefits from TA support. Experimental studies are rare, but one in the USA found no differences in the outcomes for pupils in classes with TAs present [5]. Longitudinal research in the UK has produced similar results [16].

Secondary analyses of school expenditure have suggested the expenditure on TAs is positively correlated with improved academic outcomes [27,28]. However, these analyses of TA impact do not adequately rule out the possibility that other school factors might explain the correlations found, and the conclusions drawn are not supported by the evidence collected; in particular they do not include data on what actually happens in classrooms.

The largest and most in-depth study ever carried out on the use and impact of TA support in everyday classroom environments is the multi-method DISS project [2]. Unlike previous studies, it linked what TAs actually do in classrooms to effects on pupil progress. The DISS project critically examined the relationship between TA support and the academic progress of 8,200 pupils, and put forward a coherent explanation for the negative relationship found on the basis of careful analyses of multiple forms of data collected in classrooms (see Section 3.1). The findings have been referred to throughout this guidance.

Since then, there has been good observational evidence from the Effective Deployment of Teaching Assistants (EDTA) demonstrating the positive impact on school and classroom processes made as a result of making changes consistent with the recommendations outlined in this guidance [19]. The underlying model has been subjected to professional validation through collaborative work with schools via the EDTA project and the school improvement programme this led to, called Maximising the Impact of Teaching Assistants (MITA). Nevertheless, a large-scale experimental evaluation is needed to fully test the extent to which reforming TA deployment, practice and preparation can improve pupil attainment.

Other useful further research would include systematically exploring how support from TAs affects the development of pupils' 'soft skills' and the consequent impact on pupil attainment.



# SIX

Evidence-based guidance on the effective use of TAs in delivering structured interventions out of class

6.1

What is the impact of using TAs to provide one-to-one or small group intensive support using structured interventions?

Recommendation V – Use TAs to deliver high-quality one-toone and small group support using structured interventions

The area of research showing the strongest evidence for TAs having a positive impact on pupil attainment focuses on their role in delivering structured interventions in one-to-one or small group settings.

This research shows a consistent impact on attainment of approximately three to four additional months' progress over an academic year (effect size 0.2–0.3) [1,29,30]. This can be seen as a moderate effect.

Crucially, these positive effects are only observed when TAs work in structured settings with high-quality support and training. When TAs are used in more informal, unsupported instructional roles, we see little or no impact on pupil outcomes (see Section 3.1 What is the impact of TAs on pupils' academic attainment?) [2]. This suggests that schools should consider using wellstructured interventions with reliable evidence of effectiveness. Characteristics of effective interventions are discussed below (see Section 6.3).

**R** The area of research showing the strongest evidence for TAs having a positive impact on pupil attainment focuses on their role in delivering structured interventions in one-to-one or small group settings. **99** 







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# 6.2

How does this compare with other forms of intensive instructional support?

The average impact of TAs delivering

structured interventions is, perhaps

unsurprisingly, less than that for

interventions using experienced

qualified teachers, which typically provide around six additional months' progress per year [1]. However, these teacher-led interventions tend to be expensive, requiring additional, and often specialist, staff. TA-led interventions typically produce better outcomes than volunteers when delivering interventions (typically one to two months' additional progress), although both these groups benefit significantly from training and ongoing coaching [29,30]. Further information on the research conducted on TA-led interventions is available in Box 3 overleaf.

The positive effects seen for TAs delivering structured interventions challenges the idea that only certified teachers can provide effective one-toone or small group support.

Recommendation VI -Adopt evidence-based interventions to support TAs in their small group and one-to-one instruction

When considering the use of TAs to deliver structured interventions it is important to think about which intervention programme is being used and how it is being delivered. As discussed, the key difference between effective and less effective use of TAs in providing intensive support is the amount and type of training, coaching and support provided by the school. In this sense, evidence-based interventions provide a means of aiding consistent and highquality delivery.

At present there are only a handful of programmes in the UK for which there is secure evidence of effectiveness. If your school is using, or considering, programmes that are 'unproven' and possibly unstructured, ensure they include the common elements of effective interventions:

• Sessions are often brief (20-50mins), occur regularly (3–5 times per week) and are maintained over a sustained period (8–20 weeks). Careful timetabling is in place to enable consistent delivery

- TAs receive extensive training from experienced trainers and/or teachers (5–30 hours per intervention)
- The intervention has structured supporting resources and lesson plans, with clear objectives and possibly a delivery script
- Ensure there is fidelity to the programme and do not depart from suggested delivery protocols. If it says deliver every other day for 30 minutes to groups of no more than four pupils, do this!
- Likewise, ensure TAs closely follow the plan and structure of the intervention, and use delivery scripts
- Assessments are used to identify appropriate pupils, guide areas for focus and track pupil progress. Effective interventions ensure the right support is being provided to the right child
- · Connections are made between the outof-class learning in the intervention and classroom teaching (see Section 7.1 below).

Examples of evidence-based interventions available in the UK include Catch Up Numeracy, Catch Up Literacy, Reading Intervention Programme, Talk for *Literacy*, and *Switch-on Reading* (see Box 2 on Switch-on Reading). Details of all EEF projects involving TA-led interventions, including the latest evaluation findings, can be found at the EEF website: http:// educationendowmentfoundation.org.uk/ toolkit/teaching-assistants/

### **Box 2.** Switch-on Reading

Switch-on Reading is an intensive one-to-one literacy intervention for children in Year 7 who are struggling with literacy (not reaching Level 4 at Key Stage 2). It is delivered by TAs who have been trained in the approach and contains phonics and reading comprehension components. The programme involves brief (20-mins) reading sessions, taking place out of class, daily for a 10-week period.

Switch-on Reading was independently evaluated using a small-scale randomised controlled trial involving 19 schools in Nottinghamshire. On average, pupils receiving the intervention made three additional months' progress compared to similar pupils who worked with the TAs as normal. The approach also appeared to be particularly effective for weak readers and FSM pupils. The full evaluation report is available at: www. educationendowmentfoundation. org.uk/projects/switch-on-reading/

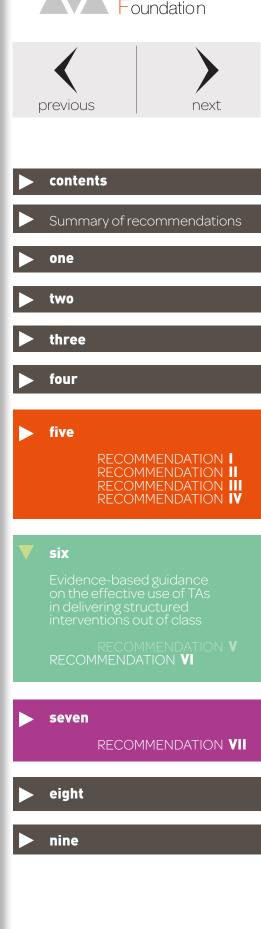
### **Box 3.** Evidence Summary

The research investigating TAs delivering interventions is small but growing: in the Teaching and Learning Toolkit, there are 19 studies (80% of the total studies relating to TAs) [1]. Nevertheless, most of these studies are small scale, typically involving 30 to 200 pupils. The majority of this research has been conducted internationally [29,30]; however, the emerging findings from UK evaluations are consistent with the international picture. More research has been conducted on literacy interventions than for mathematics, although positive impacts are observed for both.

Although the majority of TA-delivered interventions showing positive effects involve one-to-one instruction, small group approaches also show promise, with similar impacts observed compared to one-to-one interventions. Although further research is needed, this suggests it may be worth exploring small group interventions as a cost-effective alternative to delivery on a one-to-one basis.

An additional area for investigation is the long-term impact of TA-delivered interventions. Studies showing positive impacts on learning outcomes tend to measure learning outcomes soon after the end of the intervention. We know less about how those immediate improvements translate into long-term learning and performance on national tests. This is particularly relevant given that pupils' learning in interventions is not regularly connected to the wider curriculum and learning in the classroom (see Section 7).

### What research has been conducted on TAs delivering small group and one-to-one interventions?



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seven

Integrating learning from everyday classroom contexts and structured interventions

**R** The key is to view the intervention from the pupils' point of view, so when they return to lessons, teachers can ask questions that help them apply, demonstrate and consolidate new learning. **99** 

# 7.1

Recommendation VII - Ensure explicit connections are made between learning from everyday classroom teaching and structured interventions

Training TAs for specific interventions does not, on its own, provide an answer to the ineffective way in which TAs have been found to be deployed in schools. Previous research has indicated concern over the extent to which learning via a structured intervention is related to the pupils' broader experiences of the curriculum.

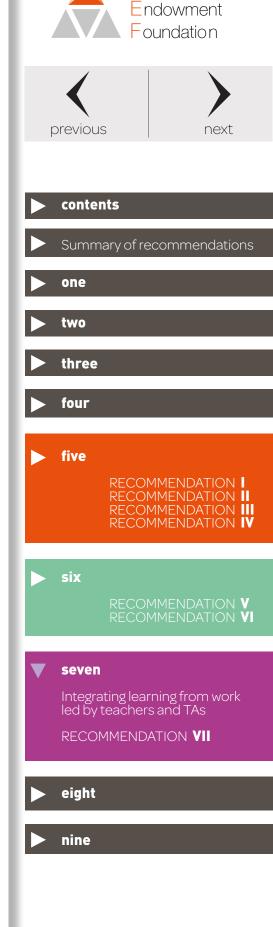
Interventions are often quite separate from classroom activities and the lack of time for teachers and TAs to liaise means there is relatively little connection between what pupils experience in and away from the classroom. This means it can be left to the pupil to make links between the coverage of the intervention and the wider curriculum coverage back in the classroom. Given that supported pupils are usually those who find accessing learning difficult in the first place, this presents a huge additional challenge. The integration of the specific intervention with the mainstream curriculum is therefore vital.

class for interventions, so it should be a prerequisite of any TA-led programme that it at least compensates for time spent away from the teacher. Crucially, this does not mean that we should pile the responsibility for pupils making accelerated progress onto TAs. The SEN Code of Practice makes it clear that 'teachers are responsible and accountable for the progress and development of the pupils in their class, *including* [our emphasis] where pupils access support from teaching assistants' [31].

Pupils are typically withdrawn from

In secondary schools, giving English and maths departments the responsibility for coordinating the day-to-day roles of TAs will help ensure teachers have full control of the variables they need to plan effective provision. In primary schools, teachers should be supported to capitalise on TA-led learning by aligning the content of strategically selected intervention programmes with wider coverage of literacy and numeracy.

The key is to view the intervention from the pupils' point of view, so when they return to lessons, teachers can ask guestions that help them apply, demonstrate and consolidate new learning.



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# eight

## Acting on the evidence

# 8.1

Planning a strategy to review the use of TAs

Development work with schools has revealed several key principles to successfully taking action on the recommendations in this guidance [19,32]:

- **1.** The headteacher forms and leads a team of people with responsibility for managing the changes. This is essential, as staffing and contractual issues inevitably feature in decisionmaking and change cannot be sanctioned without the headteacher's understanding and approval.
- 2. This team schedules dedicated time over the course of two or three terms for discussion, planning, decisionmaking and action. Time is ringfenced for these discussions.
- **3.** A full audit of the current situation is conducted (see Figure 3 and [32]). This includes:

 Surveying staff (anonymously) for their views and experiences

• TAs keeping a work diary to obtain information on how they spend their week

 Conducting observations and asking questions about teachers' decision-making regarding TA deployment

• Making an effort to listen to TAs' interactions with pupils

• A skills audit to collect details of TAs' qualifications, certifications, training, experience, specialisms and talents

**4.** Change is rolled out gradually, testing ideas and winning support from staff across the school. The initial team is extended to include a small group of enthusiastic teachers and TAs in a particular year group or subject who are interested in working with research evidence and willing to test new strategies and feed back progress.

Figure 3 shows a model for school improvement that SLTs have previously found useful in reviewing the current use of TAs and guiding a process of change. This should shape an action plan for your school, which can then act as a foundation for training and deploying staff. Importantly, training should include supporting teachers in how to work effectively with TAs.

### **Figure 3.** A process of school improvement regarding the use of teaching assistants



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# 8.2

*Conduct an interventions 'health check'* 

When considering the use of TAs to deliver structured interventions it is important to think about which intervention is being used and how it is being delivered. One thing you might consider is conducting an interventions 'health check'. Useful questions to ask include:

- Are you using evidence-based interventions? If so, are they being used as intended, with the appropriate guidance and training?
- Is appropriate planning provided for timetabling out-of-class sessions so TAs complement classroom teaching?
- What does your data show for those pupils involved in intervention work? Is it in line with the expected progress from the research and/or provided by the programme developer?
- Do your findings suggest that training for TAs (and teachers) needs to be refreshed?
- How effective are TAs and teachers in reviewing work taking place in intervention sessions and are links being made with general classroom work?
- Is there designated time for teacher/TA liaison?

Details of all EEF projects involving TAled interventions, including the latest evaluation findings, can be found at the EEF website:

http://educationendowmentfoundation. org.uk/toolkit/teaching-assistants/

# 8.3

### Other helpful resources

The Maximising the Impact of Teaching Assistants (MITA) website contains auditing tools to help schools, details of courses and conferences, a blog and downloadable papers and articles for practitioners on the extensive research conducted at the UCL Institute of Education, London.

www.maximisingtas.co.uk

*Skills for Schools* is an online guide to careers, training and development in schools, developed and managed by UNISON. It contains useful information on entry requirements for TAs, training and career development.

http://www.skillsforschools.org.uk/roles\_ in\_schools/teaching-assistant







# nine

How has this guidance been compiled?

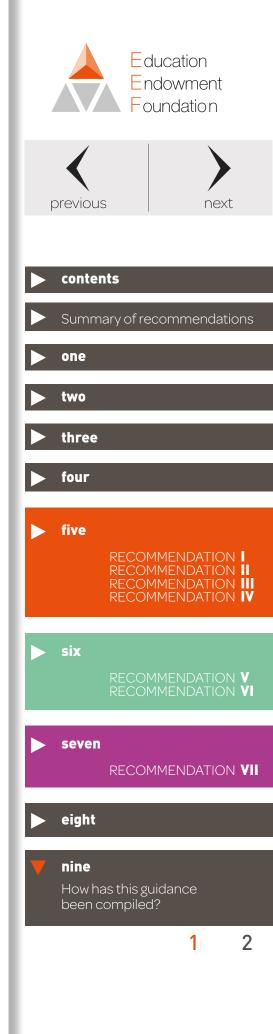
This guidance adopts a 'mixed methods' approach, drawing on both quantitative and qualitative research investigating TA deployment and use. The emphasis is on where there is reliable evidence of an impact on pupil learning outcomes - based on quantitative evaluations - although we also consider the wider research context on TAs, incorporating a range of qualitative methods. The intention is to provide a reliable foundation of 'what works', based on robust evidence and looking retrospectively, but also to provide a broad overview of the emerging research understanding (although not necessarily 'proven') and look prospectively at where the field is heading.

The primary source of evidence is the Teaching and Learning Toolkit, based on meta-analyses of evaluations of educational interventions developed by Prof. Steve Higgins and colleagues at the University of Durham, with the support of the Sutton Trust and the EEF [1]. The Toolkit entry on Teaching Assistants includes the widely referenced DISS study [2]. Findings are triangulated with other reviews of quantitative evaluations of TAled interventions, such as the Best Evidence Encyclopedia (BEE) reviews on Struggling Reading [29] and Primary Reading [30].

Meta-analysis is a method of combining the findings of similar studies to provide a combined quantitative synthesis or overall 'pooled estimate of effect'. The results of, say, interventions seeking to improve low-attaining students' learning in mathematics can be combined so as to identify clearer conclusions about which interventions work and what factors are associated with more effective approaches. The advantages of meta-analysis over other approaches to reviewing are that it combines, or 'pools', estimates from a range of studies and should therefore produce more widely applicable or more generalisable results.

The Toolkit adopts a 'confidence approach' when reviewing evidence – How much is there? How reliable is it? How consistent are the findings? In addition to summarising on 'what works' the Toolkit also explores 'how', 'why' and 'in what contexts' approaches have an impact. Full details of the method used to produce the Teaching and Learning Toolkit – including search criteria, effect size/months' progress estimate and quality assessment – are available at:

http://educationendowmentfoundation. org.uk/uploads/pdf/Technical\_ Appendices\_(June\_2013).pdf



## references

- 1. Higgins, S., Katsipataki, M., Kokotsaki, D., Coleman, R., Major, L.E. and Coe, R. (2013) The Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit. London: Education Endowment Foundation. Available at http://educationendowmentfoundation. org.uk/uploads/pdf/Teaching\_ Assistants\_Toolkit\_References.pdf
- 2. Blatchford, P., Russell, A. and Webster, R. (2012) Reassessing the impact of teaching assistants: How research challenges practice and policy. Oxon: Routledge.
- **3.** DfE. School Workforce in England: November 2013. Published 10 April 2014.
- **4.** NFER Teacher Voice Omnibus Survey - The use of the Pupil Premium (2012). London: The Sutton Trust. Available at http://www.nfer.ac.uk/ publications/91062/91062.pdf
- 5. Finn, J. D., Gerber, S. B., Farber, S. L. and Achilles, C. M. (2000) 'Teacher aides: an alternative to small classes?', in M.C. Wang and J.D. Finn (eds) How small classes help teachers do their best, 131–174. Philadelphia, PA: Temple University Center for Research in Human Development.
- 6. Klassen, R. (2001) 'After the statement: reading progress made by secondary students with specific literacy difficulty provision', Educational Psychology in *Practice*, 17(2): 121–133.
- 7. Reynolds, D. and Muijs, D. (2003) 'The effectiveness of the use of learning support assistants in improving the mathematics achievement of low achieving pupils in primary school', Educational Research, 45(3): 219–230.

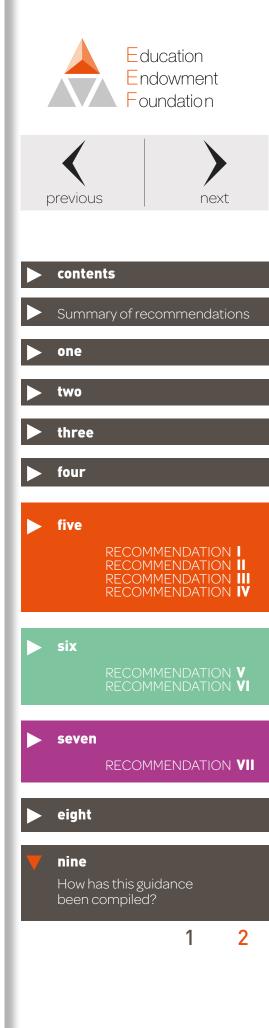
- 8. Schlapp, U., Davidson, J. and Wilson, V. (2003) 'An 'extra pair of hands'?: Managing classroom assistants in Scottish primary schools', Educational Management and Administration, 31(2):189-205.
- 9. Moyles, J. and Suschitzky, W. (1997) 'The employment and deployment of classroom support staff: Head teachers' perspectives', Research in Education, 58: 21-34.
- 10. Giangreco, M. F. (2010) 'One-to-one paraprofessionals for students with disabilities in inclusive classrooms: Is conventional wisdom wrong?' Intellectual & Developmental Disabilities, 48, 1–13.
- 11. Hutchings, M., Seeds, K., Coleman, N., Harding, C., Mansaray, A., Maylor, U., Minty, S. and Pickering, E. (2009) Aspects of school workforce remodelling strategies used and impact on workload and standards. Research Report DCSF-RR153, London: DCSF.
- 12. Webster, R. and Blatchford, P. (2014) 'Worlds apart? The nature and quality of the educational experiences of pupils with a Statement for special educational needs in mainstream primary schools'. British Educational Research Journal, published online, 21 April.
- 13. Webster, R. and Blatchford, P. (2013) 'The educational experiences of pupils with a Statement for special educational needs in mainstream primary schools. Results from a systematic observation study', European Journal of Special Needs Education, 28(4): 463-479.

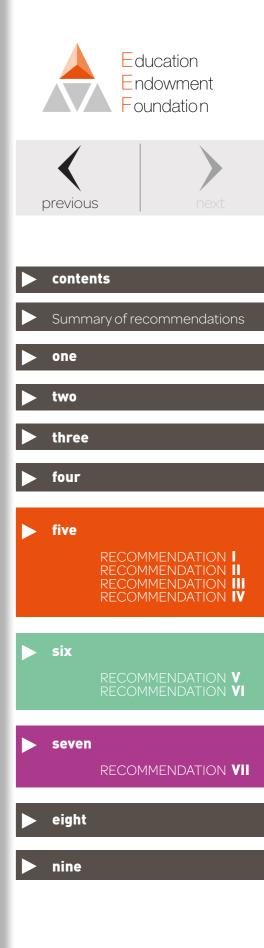
- 14. Rubie-Davies, C., Blatchford, P., Webster, R., Koutsoubou, M. and Bassett, P. (2010) 'Enhancing student learning? A comparison of teacher and teaching assistant interaction with pupils', School Effectiveness and School Improvement, 21(4): 429-449.
- 15. Radford, J., Blatchford, P. and Webster, R. (2011) 'Opening up and closing down: Comparing teacher and TA talk in mathematics lessons', Learning and Instruction, 21(5): 625-635.
- 16. Blatchford, P., Russell, A., Bassett, P., Brown, P. and Martin, C. (2004) The effects and role of Teaching Assistants in English primary schools (Years 4 to 6) 2000–2003: results from the Class size and Pupil-Adult Ratios (CSPAR) Project. Final Report. (Research Report 605), London: DfES.
- 17. Muiis, R.D. and Revnolds, D. (2001) Effective teaching. Evidence and practice, London: Paul Chapman.
- 18. Wiliam, D. (2010) 'How should we use what we know about learning to read?', keynote address at Changing Lives: 7th International Reading Recovery Institute, at the Institute of Education, London, 8 July.
- **19.** Webster, R., Blatchford, P. and Russell, A. (2013) Challenging and changing how schools use teaching assistants: Findings from the Effective Deployment of Teaching Assistants project, School Leadership and Management, 33(1): 78-96.

- 20. Radford, J., Bosanquet, P., Webster, R. and Blatchford, P. (2015) Scaffolding learning for independence: clarifying teacher and TA roles for children with SEN, Learning and Instruction, 36:1–10.
- 21. Moyles, J. and Suschitzky, W. (1997) Jills of all trades? Classroom assistants in KS1 classes. London: ATL Publications.
- 22. Farrell, P., Balshaw, M. H. and Polat, F. (1999) The management, role and training of learning support assistants, London: DfEE Publications.
- 23. Lacey, P. (2001) 'The role of learning support assistants in the inclusive learning of pupils with severe and profound learning difficulties', Educational Review, 53(2): 157-167.
- 24. Geen, A. G. (1985) 'Team teaching in the secondary schools of England and Wales', Educational Review, 37(1): 29-38.
- 25. Thomas, G. (1992) Effective classroom teamwork: support or intrusion. London: Routledge.
- 26. Cremin, H., Thomas, G. and Vincett, K. (2005) 'Working with teaching assistants: three models evaluated', Research Papers in Education, 20(4): 413-432.
- **27.** Brown, J. and Harris, A. (2010) Increased Expenditure on Associate Staff in Schools and Changes in Student Attainment, London: Training and Development Agency for Schools.

- 28. Nicoletti, C., and Rabe, B. (2014) Spending it wisely: how can schools use resources to help poorer pupils? London: Nuffield Foundation
- 29. Slavin, R. E., Lake, C., Davis, S., & Madden, N. (2011). Effective programs for struggling readers: A best-evidence synthesis. Educational Research Review, 6:1-26.
- 30. Slavin, R.E., Lake, C., Cheung, A., and Davis, S. (2008). Bevond the Basics: Effective Reading Programs for the Upper Elementary Grades. Washington, DC: Institute of Education Sciences, U.S. Department of Education.
- **31.** Department for Education and Department of Health (2015) Special educational needs and disability code of practice: 0 to 25 years. Statutory guidance for organisations which work with and support children and young people who have special educational needs or disabilities. January 2015. https:// www.gov.uk/government/uploads/ system/uploads/attachment\_data/ file/398815/SEND\_Code\_of\_
- 32. Russell, A., Webster, R. and Blatchford, P. (2013) Maximising the impact of teaching assistants: Guidance for school leaders and teachers, Oxon: Routledge.

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