Research for Teachers

Special educational needs and inclusion

published: Thu Feb 01 10:39:13 GMT 2007

How might schools manage inclusion in ways that are compatible with raising all pupils' achievements? What impact does inclusion have on pupils' achievement - both those with diagnosed special needs and those without - and how could schools manage inclusion so that they reduce any possible negative impact that inclusion might have? The study we have chosen for this TLA research summary sheds some light on these key issues.

The study is:

Dyson A., P. Farrell, G. Hutcheson and F. Polat. *Inclusion and pupil achievement*. DfES, RR578, 2004.

The researchers analysed national pupil attainment data, which included information on over 500,000 pupils in mainstream schools at each key stage, to explore the effects of school inclusivity on pupils' scores in national assessments. Their findings suggested that attainment was largely independent of levels of inclusivity and indicated that other factors (such as socio-economic status, gender and ethnicity) may have a more significant impact on attainment.

The researchers also examined how 16 highly inclusive schools (schools with a high proportion of pupils with SEN) managed inclusion. They identified strategies that seemed likely to enhance the attainment of all pupils. These included careful individual monitoring, flexible grouping and strategies for raising achievement generally.

In this summary, we report on:

- the impact of including SEN pupils on academic attainment at LEA-level, school-level and for pupils
- ways of managing inclusion that seem compatible with raising the achievement of all pupils
- the groups of pupils most likely to be 'at risk' of low attainment.

We also provide case study examples that illustrate some of the strategies for managing inclusion identified by the study, such as training TAs to work with SEN pupils, helping SEN pupils make friends and raising the attainment of groups of low attaining pupils.

We think that practitioners at both primary and secondary level will find the material will help them rise to the dual challenge of being inclusive and raising achievement. The summary will particularly help teachers who are concerned that including SEN pupils in mainstream may inhibit the achievements of those pupils and/or of non-SEN pupils. We explore the specific minor negative connections where they existed (as an inevitable outcome of the presence of low attaining pupils) at the end of the summary.

About the terms used in the study
The researchers defined 'school inclusivity' as the proportion of pupils with special educational needs in a school's population, not the extent to which schools included SEN pupils in common learning activities. Special educational needs is a very broad category covering a range of conditions and needs, such as autism, emotional and behavioural difficulties and physical impairments. The pupils the researchers identified as having special needs were those who had higher levels of SEN - either provided with a statement
Back to top

Overview

Why is the issue important?
Practitioners at both primary and secondary level face the dual challenge of being inclusive and raising achievement. It is important that schools are able to manage inclusion in ways that address parents' concerns about SEN pupils depressing the achievement of other pupils

What did the research show?
By and large, inclusion did not appear to significantly depress the achievement of other pupils, although the overall figures suggested this was a risk in some schools. The effect of inclusion on pupil achievement was less than that of other factors, such as entitlement to free school meals or English as an additional language.

How was this achieved?
Highly inclusive schools appeared to manage inclusion in broadly similar ways and in ways which seemed likely to reduce any negative impact inclusion might have on attainment. The strategies included:

- a commitment to inclusion
- careful individual monitoring
- flexible grouping and provision customised to individual circumstances
- high quality teaching
- strategies for raising achievement levels generally.

How was the research designed to be trustworthy?
The researchers analysed data from the National Pupil Database obtained in 2002, which included information on over 500,000 pupils in mainstream schools at each key stage. The researchers used multi-level modelling techniques to explore the effect of different variables (such as gender, pupils' ethnic group, and entitlement to free school meals) on pupils' average points scores in national assessments and examinations. The researchers also made an in-depth study of sixteen highly inclusive schools - schools with a high proportion of SEN pupils (16% - 50% with and without statements). Twelve were high performing schools; four were lower performing. The researchers collected interview and questionnaire data, made lesson observations and collected documents at each school.

What are the implications?
The study's findings suggest that it is possible to see inclusion as an opportunity to improve the education for all children, rather than a hindrance for educating children without SEN. It showed the importance of:

- flexible grouping and timetabling to enable all pupils to get the help they need to achieve
- TAs being involved in planning SEN pupils' work
- monitoring particular groups of students who seem to be falling behind, and
- enhancing the social acceptance of SEN pupils to reduce the risk of social isolation.

What do the case studies illustrate?
The case studies illustrate some strategies for managing inclusion identified by the main study, such as:

- training teaching assistants to work with SEN pupils
- helping SEN pupils make friends
- raising the attainment of groups of low attaining pupils.

Back to top

Study

What aspects of inclusion did the study focus upon?
The researchers analysed data from the 2002 National Pupil Database (NPD), which brought together data on pupils' attainments in national assessments and a number of characteristics relevant to their education including, the school they attended, their gender, their entitlement to free school meals (FSM) and their special educational needs (SEN) status, to see if there was any evidence that inclusion:

- has an effect on attainment at LEA and at school level
- has different effects on the attainments of different groups of pupils.

The researchers also conducted 16 case studies in highly inclusive schools (schools with a high percentage of SEN pupils - between 16% and 50% of pupils with and without statements) to investigate:

the strategies and forms of organisation highly inclusive schools used to manage inclusion
any impacts inclusion has over and beyond the attainments captured in national assessments.

We start our RfT summary by detailing the ways the highly inclusive schools managed inclusion, then look at which groups of pupils are 'at risk' of low attainment and the findings from the NPD data.

How did highly inclusive schools manage inclusion?
Highly inclusive schools appeared to manage inclusion in broadly similar ways and in ways which seemed likely to reduce any negative impact inclusion might have on attainment. The strategies included:

- a commitment to inclusion
- careful individual monitoring
- flexible grouping and provision customised to individual circumstances
- high quality teaching
- strategies for raising achievement levels generally.

The researchers did not suggest that this was a model of 'best practice', simply that these were strategies they found happening in schools that were managing large numbers of pupils with high levels of SEN alongside pupils with no identified SEN.

The researchers also pointed out that these strategies for managing inclusion did not explain the difference in performance levels between the highly inclusive schools. Both higher and lower performing schools managed inclusion in similar ways, but it did appear that the lower performing schools were not as flexible in their provision as the higher performing schools. The researchers indicated that differences between higher and

lower-performing inclusive schools may have been caused by other factors, such as the type of SEN and characteristics of pupils without SEN.

The researchers suggested it was useful to think in terms of an 'ecology' of inclusion. Teaching children with higher levels of SEN places considerable demands on schools and on teachers. Where schools have relatively high proportions of such pupils, there appears to be a delicate balance between the resources they can bring to the task of teaching and the demands which these children create. The researchers pointed out that it may not take much to disturb the ecology - a shortfall in classroom support, a weakness in teacher skills or managerial planning etc. Their observation suggests the need for schools to continually monitor how effectively their SEN resources are being targeted, especially where there are significant numbers of SEN pupils.

What difference did having a school-level commitment to inclusion make?
For highly inclusive schools, being committed to inclusion meant wanting to do the best for all the children. Some highly inclusive schools, showed their commitment to inclusion explicitly. For example, one school displayed photos around the school of many diverse pairs of pupils with the slogan, 'All different - All equal'. In other schools, the commitment was expressed less overtly, but was evident in practice, for example, by resourcing SEN provision appropriately and using the resources to benefit a wide range of children.

The broad commitment to inclusion was also reflected in the school ethos. Where an attitude of welcome prevailed amongst the staff, there was evidence that the children shared it. One headteacher gave this example:

'Most of our children will just accept that there are children here who have different abilities to other children. We noticed that fairly recently when one of our local schools closed down and dispersed a number of children ... you could tell that they hadn't come through the school with the same kind of response to children with difficulties that the children who've come through this school have ... we found these new children were sniggering [at a boy with cerebral palsy walking down the corridor]. He had never encountered that in school before and he was obviously quite upset'.

Practitioners may like to read case study 1 which explored factors that enabled the effective inclusion of pupils with particular special needs - Down's syndrome.

In schools that showed a commitment to inclusive principles, staff tended to accept the task of educating pupils with SEN as part of their normal responsibilities. But being committed to the principle of inclusion was not to say that the schools did not experience problems and difficulties with the practicalities of inclusion. There were teachers and TAs who believed SEN pupils disrupted the learning of other pupils, drew attention to the inappropriate nature of the curriculum as they saw it and pointed out the difficulty of providing individual attention in the context of large classes. However, whilst staff in both higher and lower-performing schools expressed these concerns, the researchers highlighted a subtle difference in their outlook - staff in lower-performing schools seemed to see themselves as facing somewhat greater challenges than their counterparts in the higher-performing schools.

We look at the challenges faced by teachers in highly inclusive schools in more detail on a later page.

How did highly inclusive schools achieve flexible provision?
None of the highly inclusive schools had a system in which all SEN pupils were taught in mainstream classrooms for the whole of the school week. Typically, schools used a mixture of:

- unsupported mainstream class placement
- supported mainstream class placement
- small group or one-to-one teaching outside the mainstream class.

Schools achieved flexible provision in a number of ways. For example, one secondary school had a unit for pupils with moderate learning difficulties. However, the unit was used as a withdrawal base rather than as a separate form of provision. Pupils had individual timetables governing this withdrawal. For the remainder of the time, they were placed in mixed-attainment classes, although they tended to be concentrated in two classes

in years 7 and 8 so that support could be focused on these groups.

One primary school achieved flexibility through running booster classes and other systems of small group support. A teacher was employed to take booster classes in English, mathematics and science for Y5 and Y6 during the day and after school 'challenge' classes. Sometimes, SEN children were involved in these classes. Lower down in the school, support was provided for lower attaining pupils in the form of small groups with teaching assistants. The support was not fixed - the children were moved about and taken in and out of groups. Support was not provided for a predetermined length of time or always during the same lessons. The pupils commented on the benefits of this flexible approach as they saw them:

'Those who go to booster classes are given help to catch up with what's been going on'.

'Sometimes the timetable is changed so children miss different lessons different weeks'.

Flexible provision meant that pupils tended to be monitored carefully and individually. Most of the schools had sophisticated systems for tracking individual progress and basing interventions on an analysis of what they might reasonably expect of the children. Often, the assessment and planning systems for the children identified as having SEN were simply more detailed versions of the planning systems that were in place for all pupils. A significant part of the assessment and planning that took place was based upon teacher judgements about what would benefit particular children, as well as hard data, such as attainments on tests.

As this teacher explained:

'The key is making sure all get what they need, not that all get the same - everyone having access to what they need in order to achieve'.

How did teaching assistants help?
The flexible provision offered by highly inclusive schools demanded that teaching assistants (TAs) played an important role in breaking down what might otherwise be rigid systems of grouping by:

- offering in-class support
- working with individuals and small groups on a withdrawal basis
- staffing resource bases and special classes.

To help TAs to carry out their role effectively, many schools trained their TAs to a high level and ensured that their work was planned carefully with teachers. For example, one primary school had twenty-four support staff, most of whom had been trained while in the school. The school supplemented basic training courses provided by the LEA by inviting specialists in to provide training on more complex teaching and learning strategies. In another school, all TAs were trained in literacy development and were qualified in providing early literacy support. Practitioners may like to read case study 2 where TAs who had received specific training delivered effective literacy interventions to 'at risk' Year 1 children.

Resourcing was often troublesome for schools, but did not necessarily prevent them from finding ways to manage inclusion flexibly. Some schools made deliberate decisions to resource SEN provision above the levels of designated funding in the school budget. Many schools were skilled at striking the delicate balance of matching the available resources to the amount of support needed by their SEN pupils. Their strategies included:

- deploying TAs who were 'supporting' one pupil in such a way that they could benefit other pupils
- allocating TAs to subject departments rather than to individual pupils
- pairing pupils entitled to support so that they could share support over a longer period.

Strategies such as these gave schools a degree of flexibility in responding to a range of demands that would have been difficult to achieve otherwise.

What kind of teaching was effective in highly inclusive schools?
The researchers found nothing unusual about the teaching techniques or classroom organisation in highly inclusive schools, apart from an increased access to TAs (for the reasons explained on our earlier page about TAs). Effective classroom practice was simply the sort of good teaching that can be found in many schools - whether highly inclusive, or not. Teachers used familiar techniques to enhance the sorts of flexibility and individual responsiveness that was characteristic of the provision in these schools. For example:

- lessons were well prepared
- behaviour was well-managed (with a range of discipline styles from firm to relatively relaxed)
- expectations of the children were high in terms of learning and behaviour
- support was well targeted
- relationships between staff and children were supportive and positive
- children across the attainment range participated in lessons and levels of motivation and engagement were generally high
- staff praised the efforts and achievements made by children and teachers accorded equal value to the different achievements of all the children
- children covered the same curriculum though tasks were differentiated
- lessons included a variety of tasks.

The teachers used a variety of strategies, such as whole class teaching, group work and individual work with and without adult support. However, an important common feature was that the teachers mixed and matched the strategies to what they saw as particular pupils' needs at particular times. Just as good systems of pupil monitoring were key to a school's ability to operate flexibly, so teachers needed to know their pupils well to teach them in a flexible way.

This is not a counsel of perfection, however. The researchers pointed out that not all the teaching observed in the higher performing schools was high quality and good teaching was not confined to the most 'inclusive' settings.

What strategies did highly inclusive schools use to raise achievement?
All the highly inclusive schools developed strategies for raising achievement. These included strategies for:

- raising overall achievement levels
- meeting specific target attainment levels in a more instrumental way
- remedying perceived weaknesses in pupils' skills.

These strategies were not exclusive to the inclusion agenda. For example, some were aimed at pupils not identified as having SEN and some were more general strategies that aimed to benefit pupils with SEN alongside their peers. However, the strategies were interwoven with strategies for managing inclusion at school and classroom level.
Raising overall achievement levels

The highly inclusive schools tended to have explicit strategies for raising achievement generally. For example, one school had achieved an upturn in its performance in national assessments through focusing on raising the quality of teaching. Teachers were required to follow the multi-part lesson plan recommended in the Key Stage 3 strategy with all classes, regardless of the level of SEN. In some cases, strategies focused on offering a well-balanced or more exciting curriculum. Strategies such as these were not focused on a specific group and were likely to benefit all of the school's pupils.

Meeting target attainment levels
Some strategies focused on raising measured attainment. By and large, these strategies were not focused on pupils regarded as having SEN, but on pupils who were borderline of target attainment levels. For example, in

one school, there were targeted interventions for pupils in year 9 on the borderline of level 5. These included after-school teaching of science topics known to be particularly difficult and the delegation of staff to send text messages to likely absentees on the morning of examinations.

Remedying perceived weaknesses in pupils' skills
Strategies focused on the perceived weaknesses in pupils' skills were not specifically targeted at SEN pupils, though they might be expected to share the weaknesses of their peers and were therefore also likely to benefit. For example, teachers in a school serving a highly disadvantaged area focused on the development of oracy during circle time. The teachers felt that there was a problem with the development of oracy skills in the home and that this was having an impact on the ability of a wide range of children to do well in literacy.

Practitioners may like to read case study 3 about how teachers in a school set about improving all their pupils' literacy skills, but focusing specifically on boys' writing skills.

What particular challenges did teachers working in highly inclusive schools face?
Many teachers were positive about inclusion and felt that it brought advantages. They commented that SEN pupils benefited from access to the mainstream while other pupils benefited from the additional resources brought into school and teachers frequently pointed to the social gains for all children.

However, teachers faced problems in the classroom that threatened the positive relationship between inclusion and achievement. They viewed managing behaviours that disrupted lessons a particularly difficult aspect of dealing with children with SEN in the context of raising attainment. In some cases the problem was relatively minor and well contained. For example, one teacher described the problem of noise made by autistic children in her class. She described how, if one of these pupils was very loud, she felt she had to raise her own voice and the 'whole atmosphere' in her class consequently became too loud. Nevertheless, because the other children were used to the pupil, it did not appear to be a major problem - generally, the children 'switched off' from the shouting and their learning was not affected.

Elsewhere, the problem appeared to be more widespread, as this teacher explained:

'This school has a high percentage of EBD [emotional and behavioural difficulties]. It is this group which, for a variety of reasons, causes most disruption ... This has a detrimental effect on the learning of the other children, as the quality teaching they deserve is sometimes lost in the amount of time needed to deal with incidents in the classroom'.

The researchers pointed out that although they saw incidents where pupil behaviour disrupted learning, they also saw similar incidents where teachers and TAs successfully averted problems or dealt with them quietly and efficiently, such that the incidents were unlikely to interrupt learning.

The researchers did not explore strategies for managing pupils' disruptive behaviour. Practitioners may like to read our earlier RfT summary of a systematic review of strategies for managing the behaviour of pupils with EBD.

How did pupils view being in highly inclusive schools?
The researchers sought the views of pupils, both with and without SEN, about their learning and achievements, and asked them whom they preferred to work with in their class.

Learning
For the most part, pupils both with and without SEN felt that they were achieving well and that the work was at an appropriate pace. However, fewer pupils with SEN than without SEN, particularly in secondary schools, felt their work was good or set at an appropriate pace. There was no indication that pupils without SEN felt that having higher numbers of SEN pupils in the school interfered with their learning. Where other pupils did interfere, the problem lay with classmates who 'distract me' - but these were not necessarily pupils with SEN. There was a feeling amongst the pupils that those who struggled most had the most help, but also a sense that all pupils could get help if they needed it.

Popularity

There were a few differences between pupils with and without SEN regarding class preferences for working partners. It appeared that pupils with higher levels of SEN were less likely to be chosen as preferred working partners by their classmates than other pupils. Whilst a quarter to a third of SEN pupils were socially isolated, less than one-seventh of pupils without SEN fell into this category.

Practitioners may find it helpful to read a case study that evaluated an intervention (the 'Circle of Friends' approach) to enhance the social acceptance of classmates with emotional and behavioural difficulties.

Which pupils are 'at risk' of lower attainment?
When carrying out their statistical analysis of the NPD data, the researchers separated the impacts of school inclusion policies from those of other independent variables known to be linked to attainment at the aggregate level, including pupils' gender, eligibility for free school meals (FSM), ethnicity, mother tongue and birth month. They found:

- gender - the ratio of boys to girls identified as having SEN was about two to one across all key stages. For example, at KS1 around 14% of boys and 8% of girls had SEN (without statements). By KS4, less pupils were identified as having SEN (without statements), but the ratio of boys to girls was about the same (9% of boys compared with 5% of girls)
- eligibility for FSM - overall, pupils who were eligible for FSM were twice as likely as their peers to be identified as having SEN. For example, at KS1 around 36% of pupils eligible for FSM had SEN (without a statement) compared with 18.5% of pupils not eligible for FSM
- ethnicity - generally, pupils in Black African, Caribbean, Pakistani and Bangladeshi ethnic groups were more likely than their peers to be identified as having SEN (without statements) across all key stages, but this trend was not apparent for pupils with statements
- English as a second language - at all key stages, pupils whose mother tongue was not English were slightly more likely than their peers to be identified as having SEN without statements, but slightly less likely than their peers to have a statement of SEN
- birth month - pupils born in the summer were more likely to be identified as having SEN across all the key stages. This was particularly marked at KS1, with nearly 30% of August born pupils being identified as having SEN (without statements).

Clearly, being male, young for the year-group, entitled to free school meals, from particular ethnic groups and with a mother tongue other than English increases the statistical likelihood of having difficulties with learning and subsequent low attainment. The challenge for teachers is to identify pupils who are at risk of low attainment and give them the additional help they may need. Practitioners may like to read case study 5 on a teacher who noticed that a group of Pakistani students were falling behind in science and how she went about closing the gap in their attainment.

Did the researchers find a relationship between inclusion and attainment?
The researchers found that by and large, inclusion did not appear to significantly depress the achievement of other pupils, although the overall figures do suggest this is a risk in some schools.

At LEA level
The researchers found no evidence of a relationship between inclusion and attainment at LEA level. An LEA's policy in terms of the proportion of SEN pupils educated in mainstream schools seemed to have no bearing on overall levels of attainment in schools in that LEA.

At school level
The researchers found that schools with high levels of inclusion were slightly more likely to have lower levels of attainment. However, they indicated that the relationship between the level of school inclusivity and attainment was unlikely to be causal because:

- there was considerable variation in the performance of schools with similar levels of inclusivity
- schools with higher levels of inclusion tend to serve more disadvantaged and therefore lower attaining pupils. In other words, the association is not causal - children with some kinds of special educational need are by definition less likely to score highly on academic attainment tests, and inevitably, this will be reflected in their schools' aggregate raw

scores. It does not follow that all SEN is about an inherent incapacity to achieve academically at the highest levels.

For pupils
The researchers found some evidence that including pupils with SEN was associated with slightly lower attainment levels at the level of individual pupils, although the impact was very variable:

- at secondary level, pupils without SEN were slightly more likely to attain at a lower level than pupils with SEN
- at Key Stage 1, the reverse was the case
- there was no clear relationship at Key stage 2
- the impact was more marked for schools with lower levels of inclusivity than those with higher levels.

The researchers suggested that the variation in impact of inclusivity at different key stages could be explained by factors such as different SEN identification practices at different key stages.

The researchers emphasised that their findings indicated inclusion accounted for a very small proportion of the depression of pupils' scores, and the effect of inclusion on pupil achievement was less than that of other variables, such as entitlement to free school meals or English as an additional language.

How was the research designed?
The researchers analysed data from the National Pupil Database (NPD) obtained in 2002, which included information on over 500,000 pupils in mainstream schools at each key stage. The researchers used multi-level modelling techniques to explore the effect of different variables:

- proportion of pupils with SEN in schools
- pupil attainment
- pupil progress
- gender
- entitlement to free school meals
- ethnic group
- pupil's mother tongue
- SEN status.

on pupils' average points scores in national assessments and examinations. The techniques made it possible to explore the effect of each variable, taking all the other variables into account.

The researchers also made an in-depth study of sixteen highly inclusive schools - schools with a high proportion of SEN pupils (16% - 50% with and without statements). Eight of the schools were primary and eight were secondary schools. The schools were mostly identified from the NPD data. The schools varied in terms of:

- the number of pupils on the school roll
- level of attainment
- whether of not they were specially resourced
- types of SEN in their school populations and the proportions of each type
- levels of FSM entitlement
- the length of time they had been inclusive for
- geographical location.

The schools were chosen because the percentage of pupils with high levels of SEN was disproportionate relative to other schools in the same FSM band. They were not chosen because they had a reputation for

effective inclusive practices. Twelve of the schools (six primary and six secondary) were chosen as being high-performing in terms of the average measured attainments of their pupils. Four schools were chosen because they were lower-performing.

In each school, the researchers interviewed teachers, headteachers, other staff and pupils and administered questionnaires where possible to staff and pupils. They also made focused lesson observations and collected school documents (Ofsted reports, reports to governors etc).

What are the implications of the study for practitioners?
This study's findings suggest that teachers need not regard the challenges of raising attainment and including more SEN children as incompatible. It is possible to see inclusion as an opportunity to improve the education for all children for the majority of schools.

Teachers may like to consider the following implications for practice in acting out the messages of this study:

The study highlighted the importance of flexible grouping and timetabling to enable all pupils to get the help they need to achieve? Are there ways you could make the grouping arrangements in the classes you teach more flexible?

The researchers highlighted the importance of TAs being involved in planning SEN pupils' work. We gave examples of joint planning between teachers and TAs in the case study section. Would it be possible to set aside time to plan activities with your TAs, perhaps rotating with other teachers to give everyone time to do this?

Our case study section contains examples of how teachers developed strategies designed to raise the attainment of particular 'at risk' groups of pupils - EAL learners in science and boys' writing skills. Have you noticed a particular group, or groups of students who seem to be falling behind in the classes you teach? Would you find it helpful to investigate strategies you could use to help them?

The study indicated that SEN pupils are at risk of social isolation, and in our case study section we report on ways of enhancing the social acceptance of SEN pupils. Could you do more to help SEN pupils in the classes you teach make friends with their classmates?

Leaders may like to consider the following implications:

The researchers pointed out how managing inclusion involves a delicate balance between the resources schools can bring to the task of teaching and the demands which SEN children create. Could you do more to monitor how effectively your school targets its SEN resources?

All teachers would probably find it helpful to share ideas of how flexible grouping arrangements can be achieved and how TAs could be best deployed in your school. Could time be allocated on the agendas for meetings to discuss these issues?
Could you create opportunities for all teachers to learn how to help, support and develop TAs' practice, perhaps through coaching and mentoring? Practitioners will find the National Union of Teachers' A-Z of peer coaching and the coaching materials in the National Strategy handbook (see further reading) helpful.

In the case study section we gave examples of how teachers developed strategies designed to raise the attainment of particular 'at risk' groups of pupils. Could you do more to encourage and support colleagues to design and carry out small-scale research projects to help investigate ways of raising attainment for particular groups of pupils in your school?

The study highlighted how the management of disruptive behaviour is the most challenging aspect of inclusion for many teachers. Would your colleagues find it helpful to be given more opportunities to discuss and reflect upon the behaviour challenges they face, the causes of the problem behaviours and ways of tackling them?

Filling in the gaps

Gaps that are uncovered in a piece of research also have a useful role in making sure that future research builds cumulatively on what is known. But research also needs to inform practice, so practitioners' interpretation of the gaps and follow-up questions are crucial. The researchers suggested three kinds of studies would usefully supplement their research:

- repeating the study with NPD data for different years - there is now data available on 'type' of SEN. This kind of study would test whether the findings for the whole SEN population hold good for each of the SEN types
- longitudinal studies drawing on the NPD to investigate whether the 'snapshot' recorded by the study represents a stable state of affairs
- more school case studies, especially longitudinal case studies.

What is your experience?
Do you have any evidence regarding the impact of inclusion on attainment in your school? Do you have action research or enquiry based development programmes running that explore, for example, raising the attainment of a group of pupils who are falling behind, effective ways of working with TAs, or promoting the social inclusion of SEN pupils. We would be interested to hear about examples of effective inclusion practices, which we could perhaps feature in our case study section.

Your feedback
Have you found this study to be useful? Have you used any aspect of this research in your own classroom teaching practice? We would like to hear your feedback on this study. To share your views with us please email: research@gtce.org.uk
Back to top

Case studies

We have chosen the following case studies to illustrate aspects of managing inclusion identified by the main study. Case studies 1 and 2 explore different approaches to including SEN pupils in mainstream classrooms. Case studies 3 and 5 describe investigations carried out by teachers who were concerned with raising the attainment of specific groups of pupils - EAL learners and boys. Case study 2 reports on how teaching assistants were trained to deliver an effective intervention strategy.

Including pupils with Down's syndrome in mainstream primary classrooms

We chose this case study because it offers an insight into how schools could develop policies and practices that should enable maximum participation and learning for pupils with Down's syndrome within mainstream primary education.The study focused on 18 pupils (11 boys, 7 girls) with Down's syndrome who attended mainstream primary schools in six LEAs in the north-west of England.The researchers investigated the ways in which the schools managed the inclusion of pupils with Down's syndrome and the factors that contributed to the success of the mainstream placements.

The researchers collected data in three ways:

- Observation - each pupil with Down's syndrome was formally observed for a whole day on two occasions, approximately one year apart.The observer noted, what the child did, who s/he interacted with (staff and pupils), the nature of the interactions (positive/negative) and the role of the staff in respect of the pupil.
- Interviews with the child's headteacher, class teacher, teaching assistant (TA), parents and Special Educational Needs Coordinator (SENCO). The child with Down's syndrome was also interviewed, using the child's work as a stimulus, to find out what the child liked/disliked about school, his/her friendships and attitudes to work.
- Focus group discussions with 6-8 peers from the class to discuss the nature of friendships and who in their class they liked to work with.

Unsurprisingly, the study found no single way to guarantee effective inclusion. Rather, it was the interaction of certain key factors that determined the extent to which the child was included in the classroom and the wider life of the school. The researchers found that inclusion was more likely to be successful where:

- the class teacher and TA worked together as a team (they planned together, discussed problems and shared ideas with each other, and trusted each other's judgements etc)
- the class teacher took ownership of the education of the pupil with Down's syndrome
- the curriculum was made accessible to the child.

Communication between the TA and the class teacher

The relationship between the TA and the class teacher had a major impact on the style and effectiveness of the support arrangements. In about half of the schools, the class teachers were unfamiliar with teaching pupils with Down's syndrome. They tended to rely on the TA to take a key responsibility for managing his or her programme. Poor communication between teachers and TAs as the children moved between classes meant that many useful strategies that had been developed by the previous teacher or TA were not carried forward to the next class.

In marked contrast, there were examples where teachers and TAs had made efforts to collaborate with one another. For example, they held a planning meeting before the start of the term to share information about the child with Down's syndrome, focusing on issues such as his or her strengths and weaknesses or friendships.These arrangements also facilitated discussions about how the TA could offer general support without being solely focused on the child with Down's syndrome.These discussions helped the TA to feel an integral part of a team rather than viewed as being in the class only for the child with Down's syndrome.

The teacher's role

A key factor in the successful deployment of support was the extent to which the class teachers took ownership of the education of the pupils with Down's syndrome.This in turn had an effect on the way in which support was managed. When teachers took full responsibility of the child's education, the child was less likely to receive one-to-one attention from the TA and the teacher spent more time teaching the pupil. In such a situation, the TA provided more general support and, as a result, it was more usual to observe the pupil with Down's syndrome participating more fully in the life of the class.

In one Year 5 class, the teacher decided to put the child with Down's syndrome into a top mathematics group without the support of the TA for some of the week and to use the TA to support others in the lower maths group. She had observed that the behaviour of the pupil with Down's syndrome deteriorated when he was unchallenged by the activities in the lower mathematics group and became easily distracted by the disruptive behaviour of the others in the group. By teaching him in the top group, she was able to keep up to date with his progress and encourage the use of peer support, which in turn improved his social interaction.

The child's involvement in the curriculum

The researchers observed a connection between the nature of friendships involving the child with Down's syndrome and his or her peers and the nature of the working relationships in the classroom. In one school, the researcher observed a child with Down's syndrome playing with three girls in the playground. However, when talking with the children later, it became clear that the child with Down's syndrome was viewed as a responsibility and a burden and not accepted as an equal member of the class. In this particular case, the class teacher rarely involved the child in any class discussion or gave her opportunity to engage with other children during the lesson.

In many of the focus groups it was clear from the way the children spoke that they were aware of the problems faced by the pupil with Down's syndrome - that he or she was 'different', almost 'not one of us' and, although 'no problem' to have in the classroom, not a child they were likely to make friends with.

The researchers also observed three boys with Down's syndrome who struggled to keep up with their mainstream peers in academic activities, but who could keep up with any of them at football. This appeared to increase their potential for developing successful friendships with their classmates. Examples such as this and the one we gave above of the teacher who encouraged a boy with Down's syndrome to participate in the top set, seemed to suggest that, in order for genuine friendships and productive working relationships between pupils to develop, pupils with Down's syndrome need to share some general interests and activities with their classmates.

Reference: Fox, S., Farrell, P., & Davis, P. (2004) Factors associated with the effective inclusion of primary-aged pupils with Down's syndrome. *British Journal of Special Education* 31 (4) pp. 184-190

Training teaching assistants to deliver effective interventions for 'at risk' children

We chose this study because it is an example of how teaching assistants (TAs) were trained to deliver effective intervention strategies - they helped improve six-year-old children's reading and spelling performance.The study involved Year 1 children from nine schools in one LEA.The twelve poorest readers in each school were identified and allocated either to a group taught by a TA or to a control group who undertook their usual class word-level work.

The TAs received a morning's training delivered by the researchers and an experienced teacher.The training consisted of generic letter-sound teaching, followed by training in one of the intervention methods:

- phonemes (activities involving 'consonant-vowel-consonant' words, e.g. 'cat' and 'map'
- rhyme (activities involving words that rhymed with e.g. 'at' and 'an')
  a mix of phoneme and rhyme activities.

The TAs worked with small groups of children for 20 minutes four times per week during the word-level work of the literacy hour. At the end of the nine-week intervention, the researchers' statistical analysis showed:

- all the children had improved their literacy skills. However, the children in the intervention groups showed significantly greater improvements in phonological awareness, decoding and letter-sound knowledge than the control group children
- the children who received the phoneme intervention showed greater development in their knowledge of letter sounds than the children receiving the rhyme and mixed programmes.

Unsurprisingly, the effects of the teaching by the TAs varied - the differential effects explained up to 10% of the variation in the children's performance after the intervention programme.

On the basis of these findings, the researchers concluded that with training, TAs can deliver effective phonic literacy interventions to small groups of children and that a phoneme programme may be the best method for TAs to support young 'at-risk' children. The researchers pointed out that their findings did not suggest that TAs could take on the role of teachers or that early intervention support is a substitute for good classroom teaching, but that TAs can provide effective additional support for children 'at risk' of difficulties with literacy.

Reference: Savage, R. & Carless, S. (2005) Learning support assistants can deliver effective interventions for 'at-risk' children. *Educational Research* 47 (1) pp.45-61

Improving the performance of low achieving boys

We chose this case study because it is an example of how teachers in a primary school investigated a way of improving boys' performance in writing at KS2 whilst helping to raise standards of writing for all pupils. Two

groups of around 30 Year 5/6 pupils (a control and an intervention group) were set up and tested before and after the intervention using KS2 national test papers. Pupils from each group were also interviewed about their knowledge of, and attitudes to, narrative writing before and after the intervention. Approximately half the pupils involved in the study were boys.Forty per cent of the pupils in the school were on the Special Needs register and 45% were entitled to free school meals.

The writing frames project

The project consisted of two stages and took place over one school year.During the first stage, teachers used writing frames with pupils in the intervention group to help them gain an understanding of story structure.Emphasis was placed on the elements of conflict and resolution in a story. At stage 2, the pupils were encouraged to become more independent writers.

During stage 1, the teachers presented the pupils with a variety of activities.They:

- read a traditionalstory to the class and then the pupils, working in groups, discussed and exchanged ideas with each other about the structure of the story, and reported their ideas to the class
- modelled writing using this text (or another) and demonstrated how to plan and change the text according to the set objective
- discussed a writing frame with the pupils which supported the development of the conflict and resolution aspects of the story, around which the pupils could build their own stories.

After completing a story, the pupils read their story to the class, in a group or to a partner. The listeners were asked to make comments about the good points of the story and where improvements could be made.

Differentiation was introduced by:

- using the writing frame to retell the story as originally told
- using the writing frame to make changes to the original story
- using a writing frame of the pupils' own design.

During the second stage the teachers:

- used the writing frames to unpick a story of different genres (such as, adventure, romantic, science fiction) and identify the setting, characters, conflict, and resolution
- constructed writing frame or plan, based on a text jointly with the class
  explored with the class the author's use of vocabulary, the use of setting and characters, how interest was created and how the story was paced to maintain interest.

The pupils worked in groups of four to discuss ways the story could be changed and adapted while still using the joint writing frame. Differentiation was introduced through pupils:

- using the joint frame to retell or adapt the story
- using the joint frame to rewrite their own stories
- creating their own writing frames and using them to write a story.

As with stage 1, pupils read out their finished stories to the class, in a group or to a partner. The listeners were asked to make comments about the good points of the story and where improvements could be made.

The change in pupils' performance and approach to writing

Boys' attainment in writing improved over the year. Two thirds of the boys moved to a higher attainment

level compared with half the boys in the control group. One boy in the intervention group moved from Level 2 to Level 4.

The teachers' analysis of both sets of test papers from the intervention group, using QCA guidelines, showed that improvements had been made in:

- the story opening
- related sequence of events
- use of vocabulary
- sentence structure
- punctuation.

The most noticeable improvement was in the way pupils' structured their stories, which included some conflict and a resolution. Their sentence structure also improved with the use of adverbial phrases and conjunctions. The writing frames appeared to be most useful to pupils of average ability, but they also gave support to lower attaining pupils, working in small groups with an adult.

Before the intervention, the pupils thought that teachers looked for the mechanical aspects of story writing (accurate spelling and punctuation) in a good story. These were also the aspects they said they would like to improve upon. The pupils thought story structure consisted of, a 'beginning, middle and end'. None of the children knew about 'conflict' 'climax' and 'resolution' or 'genre'. Following the intervention, three out of four pupils in the intervention group showed an understanding of these terms and included them in their explanation of story structure.The pupils in the control group had heard of the terms, but could not define them. The pupils in the intervention group also said that they found using another story as a basis for writing their own story and sharing ideas with their classmates was very helpful.

Practitioners can read how another school used writing frames to raise standards in writing in our earlier RfT Effective literacy teaching in the first years of school (case study 5). Practitioners can also find out more about writing frames at: www.warwick.ac.uk/staff/D.J.Wray/Articles/stories.pdf

Reference: Marlin, R. (1999) The use of writing frames to improve boys' writing at KS2. Teacher Research Grant summary, 1998-9.Available at: www.tda.gov.uk/upload/resources/doc/r/robin-marlin.doc (Accessed 2 June 2005)

Using the 'Circle of Friends' approach to promote the social acceptance of children with EBD

We chose this case study because it is an example of an approach for promoting the social inclusion of SEN pupils. The study evaluated an intervention - the 'Circle of Friends' approach - designed to enhance the social acceptance of pupils with emotional and behavioural difficulties.It involved 20 children with EBD (19 boys and one girl) aged six to 12 years and their classmates from 15 primary schools. The purpose of the Circle of Friends approach was to support children with EBD in a mainstream school by enlisting the help of the other children in their classes and setting up a special group or "circle" of friends. During a meeting led by an adult, the special group helped to set, monitor and review weekly target goals with the focus child.The group also provided support for the child and helped him or her achieve his or her target goals.

The Circle of Friends approach

To begin with, a class discussion led by an adult was held without the focus child being present. Ground rules were established, including confidentiality, listening to each other and seeking adult help if worried. Then, the class discussed the focus child's strengths before being asked to identify difficulties. The adult talked with the class about friendships and how having a lack of friends and support can make them feel and behave. Links were drawn with the focus child's behaviour and the class generated suggestions for assisting the child and

improving the situation. Finally, children were asked to volunteer to be part of a support group for the focus child. Four to eight children were selected to form the Circle of Friends and the other children were asked to continue to be involved in helping the focus child in the ways that had been discussed.

The first meeting of the Circle of Friends and the focus child took place immediately after the class discussion. This meeting was also led by an adult. The class discussion was summarised for the child and s/he was involved in identifying target goals to be worked on and strategies to be implemented by both the child and the Circle of Friends over the coming week. Meetings of the Circle of Friends were held every week for six to weeks and were led by an adult.

The weekly meetings were carefully managed to be a positive, supportive experience for all the children. The meetings began with a warm-up game and a reminder of the ground rules. The group reviewed the target goals and strategies identified the previous week and discussed what went well, what did not go so well and what should be done the following week. Successes were celebrated.Role-play was sometimes used to practise a particular behaviour.

The study consisted of two phases:

Phase 1: Circles of Friends were set up for ten pupils with EBD, with the remaining ten pupils serving as a comparison group. An educational psychologist ran the six Circles of Friends meetings.Teachers were asked to spend 20-30 minutes per week reading a story on the theme of friendship with a small group which included a child from the comparison group
Phase 2: The children from the comparison group received the Circle of Friends programme.The class teacher (with advice from the educational psychologist) ran the six weekly meetings of the Circle of Friends.

The researchers collected information on the impact of the approach, measuring changes in:

- the level of social acceptance of the focus children by their classmates
  the focus children's self-perceptions of competence, social acceptance and feelings of self-worth
- teachers' ratings of the focus children's behaviour
- children's and teachers' perceptions of the classroom learning environment.

The researchers found that the Circle of Friends intervention had a positive impact on the social acceptance of the focus children in the perceptions of their classmates. It did not appear that the approach worked through helping the focus child learn new social skills that led to greater acceptance by the peer-group. Neither the teachers nor the other children in the class believed the focus child's behaviour had changed. Nor did they perceive any changes in the classroom ethos. However, the approach appeared to be a useful means of changing other children's perceptions and judgements about a focus child.

The researchers also found that the two types of intervention had different effects on the social acceptance of the focus child. Social acceptance appeared to be more narrowly focused on the pupils in the Circles of Friends when the educational psychologist ran the weekly meetings. When the class teacher ran the meetings, there appeared to be a more general impact on other pupils in the class. The researchers suggested that although the teachers found having an outsider run the meetings helpful, it increased the possibility of the class teacher becoming detached from the process and not reinforce appropriate behaviour by the circle members and other classmates.

Reference: Frederickson, N., & Turner J. (2003) Utilizing the classroom peer group to address children's social needs: an evaluation of the Circle of Friends intervention approach. *The Journal of Special Education*, 36 (4) pp. 234-245

Improving outcomes for EAL learners in science

We chose this case study because it is an example of a teacher who noticed a group of pupils were falling behind in a particular subject and how she went about closing the attainment gap. The study was prompted by

the teacher's analysis of the school's national test results. These showed that students whose ethnicity was Pakistani were falling behind the main school population in terms of achieving Level 5 in both mathematics and science.

The gap between the majority school population and Pakistani girls was even greater than that for boys. The teacher, an ethnic minorities achievement grant (EMA) co-ordinator, set out to investigate why the students of Pakistani origin could achieve Level 5 in English in the KS3 SATs, but not in Science. Ethnic minority pupils formed approximately 10% of the Specialist Technology College's population of 1800 students.

In order to gain a picture of the difficulties the Pakistani students felt they encountered and how they could be helped to overcome them, the EMA teacher videoed groups of minority ethnic pupils in years 7,8 and 9. She also interviewed boys and girls from each age group in separate, small groups. She found that the EAL learners felt they needed:

- specific teaching of key words
- a scaffolding for writing up practical work.

Key words

Many of the students identified new vocabulary as a problem. They felt that a lot of new words were 'coming at us too quickly' that they didn't have time to really understand. One student explained why they didn't ask teachers to explain the meaning of science terms:

'I didn't want the teacher to think I didn't understand because they might think I'm in the wrong set, but I don't understand because I'm learning in another language.'

The students suggested they would like dictionaries that gave specific scientific definitions of words. One student remarked:

'When I look in a dictionary for a word I see lots of explanations, but I don't know which is the science one.'

Writing

The students also found writing in science difficult because they were unsure how to write up practical work.One student commented:

'I wrote down Method, Result and Conclusion for lots of experiments and never understood and still don't know what to write in each heading.'

Some of the students felt that they copied work from the board that they really did not understand and that it was therefore no help to them when they came to revision. They commented that when they were copying from the board the teacher would be explaining the work. They found this particularly frustrating, as they could not fully concentrate on the explanation as they were concentrating on accuracy.

The EMA teacher together with the science teachers developed a range of teaching and learning materials for two Year 7 groups based on the students' comments. These included:

- games and activities using key words from two modules which were designed to be used in twos or small groups (such as card games matching words and meaning and putting key words in sentences)
- worksheets to aid the writing up of experiments using ideas such as cloze activities, sequencing and use of tables
- writing frames to 'scaffold' students' report writing which offered sentence stems, connectives, and specific vocabulary for students to follow
- a science dictionary containing key words for each topic with simple definitions.

The EMA teacher evaluated the impact of these strategies through student comment, end of module tests and classroom observations.The end of module tests showed that the majority of the group had improved. The structure of the students' written work and their use of specific science vocabulary had improved. The students also felt they had more information in their exercise books to revise from, and that they had taken a more active part in their report writing, not merely copying from the board. Staff noticed that teaching the students specific keywords helped the students improve their oral contributions, and that the students were more likely to use the correct vocabulary in their group discussions.

Reference: O'Connor, J (2004) Improving outcomes for learners with English as an additional language (EAL) in science. National Teacher Research Panel (2004) Available at: www.standards.dfes.gov.uk/ntrp/lib/pdf/OConnor.pdf (Accessed 2 June 2005)
Back to top

Further reading

1. What else might I enjoy reading?

Lunt, I., & Norwich, B., (1999) Can effective schools be inclusive schools? London: Institute of Education.

Dyson, A., & Millward, A. (2000) Schools and special needs: Issues of innovation and inclusion. London: Paul Chapman Publishers.

Balshaw, M. & Farrell, P. (2002) Teaching Assistants: practical strategies for effective classroom support. London: David Fulton Publishers

2. Where might teachers find helpful information online?

Inclusion and pupil achievement DfES RR578
Full report available at:
www.dfes.gov.uk/research/data/uploadfiles/ACFC9F.pdf

3. Government reports

Removing barriers to achievement: The government's strategy for SEN
DfES (February 2004) Removing barriers to achievement: The government's strategy for SEN.
www.standards.dfes.gov.uk/literacy/publications/inclusion/883963/

4. Related research

A systematic review of the effectiveness of school-level actions for promoting participation by all students Dyson et al (2002) EPPI-Centre. Summary available at:

http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=276

Network project papers on inclusion
ESRC TLRP network project papers on inclusion:
http://orgs.man.ac.uk/projects/include/researchpapers.htm

Peer assisted learning for inclusion.
www.literacytrust.org.uk/Pubs/topping2.html

The Research Informed Practice site (TRIPS) on the DfES website contains a number of research summaries on the theme of inclusion at:
www.standards.dfes.gov.uk/research/themes/inclusion/

5. Working with teaching assistants

A -Z of peer coaching
An A -Z of peer coaching can be found at The National Union of Teachers website. Available at: www.teachers.org.uk/resources/pdf/A-Z-peer-coaching.pdf?PHPSESSID=ca07da4c5b1d1df71cdc02ecb6eb5104

Guidance on qualifications for teaching assistants
Teaching assistants and training providers may be interested in looking at guidance on qualifications for teaching assistants. Available at: www.teachernet.gov.uk/_doc/3086/NVQs for Teaching Assistants.pdf

Materials to help primary teachers working with classroom assistants
SCRE has produced a set of materials to help primary teachers working with classroom assistants. Available at: www.scotland.gov.uk/library5/education/wwca-00.asp

Back to top

Appraisal

Inclusion and Pupil Achievement
Alan Dyson, Peter Farrell, Graeme Hutcheson & Filiz Polat
DfES Research Report 578 (2004)

Robustness
The study attempts to adopt as robust an approach as possible in this under-researched and complex area. In conceptualising the research the authors comment in detail about the difficulties of disentangling the specific effects on attainment which are related to inclusion of pupils with special educational needs (SEN) and other factors associated with low attainment such as low socio-economic status, ethnicity and English as a second language. The authors also point out at an early stage the analysis does not consider the different types of disability, only the presence of a special need.

The study adopted three methods:

- a large-scale (over 2 million pupils) statistical analysis of the National Pupil Database for key stages 1-4
- 16 case studies of highly inclusive schools (half primary and half secondary schools)
- a review of relevant research literature.

Using multi-level modelling the researchers explored the relationships between inclusion and attainment in national tests and wider pupil achievements. The study defined inclusion as the proportion of pupils in schools with SEN; it did not mean the propensity of schools to be inclusive. Because the large scale statistical analysis did not provide detail about what went on in schools, the researchers used the case studies to provide an in-depth look at how schools and teachers responded to inclusion issues. The illustrative material in the case studies also provided wider perspectives of student achievement to include behaviour and social factors. The reliability of the case study findings was enhanced by the use of common data collection methods and of the same analytical framework.

Relevance
The study findings are highly relevant in the context of the current debate about the potential impact of inclusion on school attainment, and thus of potential interest to policy makers, school leaders and teachers in both primary and secondary phases of education.

Applicability

The researchers are careful to explain that the case studies do not constitute a record of 'good practice' in relation to inclusion. Nonetheless, the case studies do provide teachers with illustrations of school and classroom practices in contexts they would recognise. The study highlights practice which schools and teachers employ in highly inclusive schools at primary and secondary level. Examples of joint planning between teachers and teaching assistants, effective use of teaching assistants, flexibility in the schools' approach to structuring timetables for students with SEN, and teachers' use of group work, provide a range of material for teachers and schools to consider in relation to their own practice.

Writing

Teachers and other practitioners with a specific interest in this area will find the report accessible. The report is written in a jargon-free manner and the series of headings make the report straightforward to navigate. Statistical terms are kept to a minimum and technical data are presented in a way which the lay reader will find helpful.

Back to top