Research for Teachers

Learning about inclusion

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How can action research inspire teachers to promote inclusion?

Inclusion, that is, 'reducing the barriers to learning and participation for all pupils', is a challenge for many schools. Some of these barriers to learning and participation are inevitably found in the classroom, so if inclusion is going to be fully realised it requires the engagement and involvement of classroom teachers.

This TLA research summary explores a project in which small groups of teachers were inspired to improve inclusive practice in their schools by engaging in action research. Seven comprehensive schools from England and Wales each had two teacher action research groups, both facilitated by an educational psychologist.

The teachers were encouraged to find out about and work with what young people brought with them to school, to take account of what young people valued in terms of education, and then to change practice accordingly. The process was not only about looking to engage greater numbers of young people in existing school practice, but also to change practice to appeal to those who had become disengaged.

Action research provided the strategy for achieving ongoing engagement and reflection by teachers working together. Changes in practice were evaluated by the teachers, leading to further reflection and improvement.

Some direct practical benefits to teaching and learning resulting from the project included:

- motivated and energised teachers with a wider repertoire of inclusive practice which had been tested and improved over time
- engaged pupils with a clearer understanding of their work and wider choices and influence over their own learning, and
- whole school impact through dissemination of successful action and an enhanced understanding of the potential benefits of teacher action research in the area of inclusion.

The researchers also concluded that the process of action research was valuable to teachers in and of itself. The model required groups of teachers to find time to reflect on evidence together and actively engage in issues of inclusion. This improved the depth and quality of teacher talk and collaboration was seen as a further positive result of the study.

The researchers identified five main areas of challenge for facilitators (in this project the facilitators were educational psychologists) and teachers involved in action research:

- facilitating the process - guiding without dominating
- preparing the ground - identifying teachers, securing management support
- shaping a project - deciding the focus for action
- keeping it going - maintaining momentum amongst conflicting priorities, and
- closure, sustainability and wider impact - celebrating achievement, disseminating learning and encouraging future action research.

We think teachers and CPD leaders interested in inclusive practice and collaborative action research will find the ideas and learning in this summary useful. Also anybody wishing to introduce a culture of enquiry and reflective practice within their school will benefit from the summary.
The summary is based on the following publications:
Howes, A., S.M.B. Davies and Fox. *Improving the context for inclusion.* London: Routledge, 2009.
Davies, S.M.B. and A. Howes. *Facilitating teacher engagement in more inclusive practice*. ESRC, 2007.
Howes, A. and S. Davies. *Engaged teachers, engaged pupils? Learning from cross-case analysis of secondary school action research work on inclusion.* London: British Educational Research Association Conference, 5-8 September 2007.
Davies, S. M. B. and A. Howes. '*I haven't got time to think!' Contradictions as drivers for change in an analysis of joint working between teachers and school psychologists.* Hangzhou, China: 28th International School Psychology Colloquium, 15-20 July 2006.
Howes, A. and S.M.B. Davies. *Designing for complex change? Critically evaluating an application of design study in relation to teachers developing more inclusive practices.* Warwick: British Educational Research Association Conference, 6-9 September 2006.
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Overview

Why is the issue important?
Many schools wrestle with issues relating to inclusion. They want to 'include everybody in school life' and to 'reduce barriers to participation and learning'. These complex challenges call for a variety of sustained responses. This study looked at 7 schools that had tackled inclusion by running small teacher action research groups. The groups were facilitated by educational psychologists. The action research groups all tested and refined innovative classroom practice to improve inclusion.

What did the research discover?
The research revealed many potential benefits to teachers, pupils and schools from this facilitated action research model. Benefits to teachers included:

- increased motivation and enthusiasm
- improved understanding of inclusion, and
- clarity about innovative practice tested in the classroom.

Benefits to pupils included:

- improvements in motivation and achievement by targeted pupils
- more opportunities for active involvement in learning
- better understanding of work, and
- having and making more choices.

Benefits to schools included:

- diffusion of innovative and tested practice across the school
- improved profile of enquiry and research across the school, and
- development of the school as a 'learning community'.

How was this achieved?

The benefits were achieved through the facilitated action research model. Small groups of teachers were supported by educational psychologists. Teacher focus groups began the reflection on issues of inclusion. Pupils were asked what inclusive learning meant to them. The teacher groups then spent time choosing a focus for their research, based on a particular group of pupils who were disengaged, or on a particular issue which the teachers wanted to tackle.

Areas of focus included use of pupil whiteboards, peer mentoring, positive marking in science, engaging girls in history and developing kinaesthetic tools for maths.

The teachers developed new practice and tried it out. Following periods of reflection and evaluation the teachers reviewed what had worked and made changes where appropriate.

The facilitator of each group was supportive and encouraging without being too directive, ensuring collaboration and keeping a balance between action and reflection.

Several school conditions needed to be in place in order for action research to thrive. These included; time set aside for the teacher action researchers, active support and encouragement from senior managers in school and linking the action research to other school priorities.

How was the research designed to be trustworthy?
The research used different approaches at three levels to monitor impact and assess what had worked:

Teacher level
Teachers' knowledge and opinions about action research and inclusion were assessed by questionnaire and focus groups at the start of the project (46 teachers). Researchers interviewed teachers during and at the end of the project and there were four networking days for the teachers with video conferencing between the English and Welsh groups.

School level
The researchers interviewed the seven headteachers at the start and finish of the project. The researchers also observed classroom practice and staff discussions during school visits. Each local authority provided background information on each school.

Pupil level
Pupils completed three questionnaires before and after the teacher-led projects. These explored pupils' assessment of the inclusivity of lessons. Altogether, 649 pupils were involved in the research.

What were the researchers' conclusions?
The researchers concluded that:

- collaboration by teachers is important in improving practice
- the focus on inclusion encouraged teachers to look for innovative ways to engage and motivate pupils and to respond to their needs
- the action research model brought both personal and professional benefits to teachers which were as important as improvements in classroom practice
- headteachers can see the value of long-term action research, as opposed to more traditional 'quick fix' one-off inset training, and
- the research showed the importance of deep thinking, honest reflection and listening to pupils.

What do the case studies illustrate?
The four case studies showed:

- the benefits which two teachers found from mentoring each other's action research
- a school which used action research to improve lesson planning and pupils' thinking skills
- the most useful support mechanisms for action research identified by a network of schools, and

- a secondary school which established a research culture across the whole school.

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Study

How did pupils benefit from their teachers' action research around inclusion?
Many of the teachers involved in the research reported that groups of pupils who had been the target of much of the inclusion work were participating more, showing significantly increased motivation and in some cases were attaining at a higher level as a result of some of the changes.

Pupils themselves were also involved in the action research process. Samples of pupils from all the schools completed questionnaires before, during and after the project and took part in focus groups. This helped the researchers and teachers to find out how inclusive pupils thought that their lessons were. It also allowed pupils to make suggestions about how lessons could be made more inclusive. Pupils identified five areas which were important to them in making lessons more inclusive and the teacher researchers responded to many of these aspirations.

Having opportunities for active involvement
The teacher-led projects demonstrated several ways in which pupils could be more actively involved in lessons. These included increasing pupil participation by getting pupil responses using individual whiteboards and inviting pupils to set their own group targets for lessons with a view to achieving rewards at the end. Practitioners might like to read a **case study** which shows how three schools tackled inclusion by working on group talking skills of pupils. This led to increases in pupil involvement reported by the teachers concerned.

Being able to understand the work
Pupils believed that a key feature of inclusivity is that everyone should have a clear understanding of the work they are asked to do. Some of the practical ways in which teacher researchers tackled this issue included the development of language aids for Welsh speaking pupils and production of constructive marking schemes that supported understanding.

Having and making choices
Pupils felt that it was important that they were given genuine choices about their learning in some areas. Some of the teacher researchers responded to this request by offering pupils some choice in the way that they learned, for example, by providing a range of learning materials from which pupils could choose in a lesson.

Teacher interest in and responsiveness to pupil views
Pupils said that inclusivity for them meant teachers showing a genuine interest in and response to their views, on an ongoing basis. Examples of changes in practice which resulted from pupil requests included increasing the amount and structuring of group work in some lessons, and the introduction of a pupil mentoring scheme. Practitioners may like to read a **case study** from our earlier RfT about low attaining pupils which showed how a primary school considered its own inclusion strategies, asked pupils for their opinion and subsequently improved practice for low attaining pupils.

Mutually respectful and warm relationship with teacher
The final area which pupils identified as important in inclusion was the development of good pupil-teacher relationships. While none of the teacher research groups directly targeted this element of inclusion, many of the projects reported this as an indirect benefit. For example, one set of teacher interviews highlighted that the teachers from that department had realised they needed to engage more individually with certain pupils in class, getting to know pupils better and connecting more strongly with each one. This resulted in pupils staying more on task.

How did the teachers benefit from being involved in the project?

The research found that there were five main benefits to teachers involved in action research projects focused on inclusion:

- motivation and energy increased
- understanding about inclusion was enhanced
- practice improved
- teachers shared greater openness to new ideas and challenges, and
- teachers disseminating learning to other teachers.

Motivated and energised teachers
The teachers involved generally found the action research process both motivating and energising. Several teachers expressed a sense of enjoyment in working with a small group of colleagues on questions of practice. They enjoyed the opportunity to be creative and reflective together and to work with colleagues they did not usually connect with. Practitioners may like to read a **case study** which describes how two teachers from the same school benefited both personally and professionally from acting as mentors to each other's action research.

One head of department acknowledged that as an older, more experienced teacher he found it harder to reflect and change his practice but that this process had provided the energy for him to do it, saying:
'It has changed my teaching because there is now much more dialogue between the pupils and me about the nature of the work and what I'm doing. We explore the objectives and the reasons for doing what we're doing'.

Some of the teachers also expressed surprise and satisfaction from the sense of achievement that came with spending time addressing difficult issues around inclusion that were often ignored due to other pressures on teacher time.

Enhanced understanding
Teachers were required to reflect on issues of inclusion together and this led to enhanced individual understanding. For example, groups reported greater consideration of their pupils' learning and participation, and a better understanding of class dynamics. They also placed greater value on understanding how pupils learn. In addition several teachers reported a realisation that their relationship with pupils could be further developed by explicitly working on it.

Improved practice
Many of the teachers involved saw the project as an excellent opportunity to 're-think their teaching'. A group of three teachers from one of the schools pinpointed some practical improvements through the project. These included realising the benefits of finding something to praise about each child and making dialogue with pupils more constructive. For another group, time to share and improve practice was appreciated and had been sustained in departmental meetings. One teacher explained:

'The best part of it was sitting down and talking with other members of staff and deciding what we're going to do...we actually sat down every so often for an hour and we were talking about actually what we were doing as our practice and that was good, getting a lot of feedback off everybody else...Since then we've decided to carry that on in science meetings, making sure we have a time when we just talk about practice'.

Greater openness
Because the action research occurred over nine months for each teacher group, many of the groups established enough trust to remove defensiveness about practice and develop openness to the ideas of others when it came to, for example, effectively motivating pupils. As a by product, a number of teachers reported that lessons had become much less stressful as a result of their change in practice.

Disseminating learning to other teachers
In some schools, the learning and practice spread to other staff (and therefore pupils) and they planned to re-use the action research model to unlock future staff potential.

Several of the schools linked the outcomes of the project together with appraisal needs, further professional development processes, and other agendas such as assessment for learning. One headteacher reflected on the action research model: 'if you allow it, if you trust in it, then you will actually see that there will be a difference, and perhaps a difference in approach, that will be longer lasting than some 'quick-fix inset' that you think might solve some of your problems'.

What particular issues did the school inclusion projects focus on?
Seven schools in the project chose a particular 'problem' which they had identified in their school as the focus for their research. We give examples from four of these schools below.

Improving pupil motivation in science
Science teachers trialled alternative teaching approaches in order to tackle the disengagement of a number of pupils in science in this school. Examples of how pupil motivation was tackled included collecting and using pupil feedback on the quality of lessons and a positive assessment scheme for marking.

Addressing girls' under-attainment in history
This group focused on disaffected girls in Year 8 who were under-attaining in history compared with the boys. The teachers trialled a range of approaches, including: creating a pupil subject council (with representation from the target group), an anonymous 'pupil voice' suggestion box, teacher observations of lessons which looked closely at the way the target pupils responded to alternative teaching approaches, and shadowing the target pupils to see how they responded to other lessons. Several significant and specific changes in practice were subsequently carried through and presented at an inset day and at other schools, including work on learning targets.

Engaging boys in mathematics
Another teacher action research group decided to target their interventions at boys in two Year 9 classes who were on the borderline of achieving a good grade at GCSE. The target pupils reported negative emotions and low confidence in mathematics and were negative about teacher-led activities. As a result the teachers made some changes to practice, for example involving more group and pair work. Another action was the creation of bigger more kinaesthetic tools, including A3 laminated graphs which pupils could write on and wipe off. The teachers felt that they 'took the curriculum apart', asking themselves how they could respond to pupils' needs. The development of resources was significant, with resource-sharing being introduced across the whole department. Practitioners may like to read a **case study** which gives more detail on this action research project and describes how the facilitator supported the two teachers involved.

Tackling disaffection in science
The science department in one school decided to focus on 'the first fifteen minutes' of their lessons, having identified some disaffected pupils in Year 10. The action was centred around three principles: 'meet and greet, have a starter and have the lesson objectives displayed'. The action was acknowledged as an element of assessment for learning, but the fact that it came from teacher research was highly significant. The assessment for learning (AfL) coordinator, herself a senior science teacher, explained:
'One of the things that has happened as a consequence...is we as a whole school started this term with those three principles that the action research group established with us. The little group has been a great source of little ideas, inspiration, small snippets of ideas to just go and do with a particular class'.

What activities did the school inclusion projects focus on?
Some of the teacher research groups focused their action research on inclusion on a particular form of intervention. We have summarised four of these projects below:

Use of individual pupil whiteboards
One group, in a bilingual school (Welsh and English being spoken), decided to trial the use of individual portable whiteboards during language lessons. The idea was to support pupil engagement in learning and to provide teachers with immediate feedback about who needed more input. An observation checklist was developed to measure behaviour before and after whiteboard use.

Peer mentoring
Another group felt that an exclusive pursuit of academic achievement was damaging to the experience of a large number of pupils and teachers. This group of teachers were responsible for pastoral support and therefore decided to pilot a peer mentoring scheme to tackle disaffection, matching sixth formers with lower school pupils at risk of disaffection. Impact was measured by increases in self confidence of mentees, especially in relation to learning. Mentors were trained and then met their mentees two or three times per week for a term and a half.

Coloured filters to improve reading
A teacher group running a research project relating to SEN support decided to evaluate the effectiveness of coloured filters in assisting pupil reading, including those with dyslexia. The conclusions from the pilot led to the practice being spread across the school.

Pupil reward scheme
Another project centred on a pupil reward scheme which tried to improve form tutors' constructive engagement with pupils. Questionnaires and interviews elicited pupils' views on the existing reward scheme. School leadership backed the project by supporting a trip for the form group earning the most reward points in a term. There was a marked drop in the number of sanctions given to pupils in the four participating form groups as compared with the non participating groups.

Practitioners may like to read a **case study** which describes how another school used action research to tackle inclusion by developing a specific activity. In this case the school introduced a particular model (the 'TASC wheel') which resulted in improvements to both lesson planning and pupils' thinking skills.

How did teachers identify areas for action?
The teachers involved in the action research projects chose the issue which they wanted to work on and the actions which they were going to take using the data gathered from pupils about their attitude to learning, and facilitated group reflection and discussion. The teacher researchers were supported by their educational psychologist facilitators to use the 'theory of change' model. This model required the teachers to consider and predict how change would occur after an intervention. Thinking through the complexities of a chain of consequences to a long term objective helped participants' understanding of how and why an action should be taken.

The facilitators led teacher focus groups at the start of the project, to bring the teachers together and to structure a group conversation to help explore group dynamics, teacher engagement, and teachers' thinking about pupil participation and how teacher actions can influence it.

Facilitators helped the teacher groups decide the focus of their group's action research in three phases:

- describe the problem - articulate in detail the pupil behaviours that caused them concern and how they related to lack of inclusion
- identify some causes - identify possible reasons for this relative disengagement, and
- suggest some approaches - approaches which might help such pupils to become more engaged.

Consideration was given to what had already been done, if anything, either by individual teachers or at a strategic level. The group considered whether the problem could be best solved by individual teachers, other staff or both.

The approach was useful for stimulating debate and moving towards group agreement, although incorporating varying teacher perspectives was a complex and often lengthy process. For example, some teachers believed poor motivation of pupils lay 'within the child' and thought specialist teachers had responsibility for meeting their needs. Other teachers felt that lack of participation was caused by the wider social environment and believed that changes in classroom practice could solve the problem. Finding time and space to hold this kind of debate within the groups was a crucial part of the action research model.

How was the action research facilitated and supported?
Each group of teacher action researchers was facilitated by an educational psychologist who was attached to that school. The facilitator had regular contact with the teachers, helping them to choose a focus for action and helping to maintain momentum within the project. The facilitator arranged and managed meetings to allow support, planning and reflection to take place. One of their primary roles was to provide challenge, to encourage the teachers to reflect and take risks.

The study identified six areas in which facilitators supported the action research groups:

- identify a focus of shared importance
- identify a focus connected to pupil engagement and attitude to learning
- maintain collaborative relationships within the group
- maintain momentum without taking ownership
- offer non-directive support, and
- enable a balance between action and reflection.

The facilitators devoted much time and energy to helping groups of teachers to identify a focus which all teachers agreed as being important and connected to inclusion. The teacher researchers concluded that educational psychologists were well placed to take on the facilitator role because the work of an educational psychologist is typically pupil centred and because social justice and improving the educational experience of all (especially marginalised groups) are central to the values and practice of their profession.

The facilitators were also challenged to maintain both the collaborative relationships and the momentum of the teacher research groups. Several schools found their facilitator's role to be effective when it was 'distant and persistent'. The distance allowed the teachers to keep the ownership of their own action research, while the persistence meant that momentum was maintained and other priorities did not take over. Practitioners may like to read a **case study** which describes in more detail how one of the educational psychologists successfully facilitated the action research of a pair of teachers.

Offering non-directive support was a critical challenge to facilitating action research. Several teachers indicated that they were used to a more traditional form of professional development in which an 'expert' directs the teacher to new methods for improving pupil learning. One teacher reported that: 'We would have liked our educational psychologist to have given more guidance and leadership...and suggested new ideas for us to implement instead of us having to come up with the ideas'.

However the researchers made it clear that action research should not be led by an expert, but facilitated by a critical friend. One facilitator explained: 'I felt that my role was to talk about the process, what action research is, to be encouraging to staff, and to be a sounding board when needed.'

The final challenge for the facilitators was to help the teachers strike a balance between action and reflection. Some groups took a long time to identify a focus while others tended to rush into action without pausing sufficiently to reflect on their shared goals for the project. The researchers concluded that the educational psychologists were useful at helping to create space for critical reflection because they were outside the school hierarchy and therefore seen as independent. Several groups reported that their facilitator helped them think more deeply about inclusion instead of becoming immediately task focused as they usually would.

Practitioners might like to read a **case study** which describes the ways in which teacher action research was supported and facilitated in one network of schools.

What school conditions needed to be in place for action research about inclusion to thrive?
The researchers linked a number of factors in school with the successful outcome of teachers' action research. Practical support and encouragement needed to be explicitly offered to the teacher researchers. Senior management within school had significant influence over these factors, which included:

- allowing time and space to be set aside for planning, implementation and reflection

- encouragement from senior managers to the teachers involved
- ensuring participation in the research was voluntary
- making research meetings high priority for the teachers involved, and
- linking the action research to other agendas and school priorities.

The study found that the teachers often took some time to understand the action research model and to see its potential benefits. Furthermore, inclusion was viewed as a complex and slippery issue to define.

When asked to reflect on the factors that are important to support action research, all of the teachers said that time, both when teaching and during non-contact time, was of major importance, but difficult to realise in practice.

The process benefited from the support and buy-in of senior managers. This was often in the form of 'back-stage' support rather than active participation, for example by ensuring teacher researchers were allocated time and resources to support their ongoing action research efforts. More than one teacher group negotiated extra non teaching time in order to meet and progress their research.

A feature of the action research model is that it stood in contrast to the common alternative of top-down management by initiative and/or prescribed action for teachers. The researchers concluded that this was why some of the teachers found it challenging to take control and ownership of a process of change, even in their own classroom. One of the headteachers reflected on what she had learned from the project: 'I think that this new way of thinking is that we have got to come up with the answers for ourselves...we're empowering the teachers to be self-reflective and to actually come up with the answers for their own pupils and our own teaching...the element of experiment is a good, valid experience in itself'.

Senior managers who offered sustained support allowed the teacher research groups to choose their own focus, but then to exploit links to other agendas. For most schools 'inclusion' was a high priority anyway. What the action research was able to do was to pinpoint some specific areas for action which could then be linked to other development work in school.

How and why did teachers become engaged in action research?
The action research projects took place over nine month cycles, requiring teachers to invest a large amount of time and energy into the process. To be successful, the teachers needed a high level of commitment to the project and to be engaged in it from the start.

Most of the teacher action research groups were made up either of teachers from the same department or at the same level (e.g. heads of year or heads of department). Motivation to participate was therefore often centred on a common area of interest. The teachers in several of the action research groups quickly identified the same groups of pupils on which to focus the action research and this helped to cement group commitment early on. The researchers also noted that competition between departments could also stimulate enthusiasm. In one school the history department was involved in the first cycle of research. When it came to cycle two, five departments bid to be involved and the maths department was chosen. Informal conversations between history teachers and the head of the mathematics department had convinced him that it would be worthwhile for his team to be involved.

At the teacher level, two areas of personal motivation for involvement were reported by individual teachers:

- personal development, especially in order to enhance personal profile in school and career prospects, and
- a desire to improve engagement and practice with a particular pupil group.

Career progression was seen as a valid reason for participation. One of the group leaders was promoted to SENCO shortly after the project was completed. In one school the teachers were chosen to participate by the headteacher without any consultation. This caused some initial resentment and the group took time to become engaged in and understand the process. Teachers were more engaged if they had volunteered to take part.

One final area of teacher engagement which the researchers identified was varying levels of participation in discussions. The collaborative action research model required teachers to be frank about difficulties as well as successes in practice. Observation of teacher groups showed a number of teachers who chose not to engage at this level. Some teachers were nervous about sharing and collaborating, evidenced by a reluctance to engage in frank discussions with colleagues about their practice. Groups which established an expectation of sharing both success and challenge were more successful in developing teacher talk and learning.

What were the essential characteristics of successful action research?
The researchers concluded that there were three essential elements to action research:

- collaboration
- ownership, and
- attention and reflection.

Collaboration
Collaboration between teachers was necessary if teachers were to become more fully engaged in working on pupil learning and participation. Collaboration allowed available resources and the skills, experience and ideas of other group members to be used to the full.

Ownership
Teachers needed to identify with and feel ownership of the issue being tackled if they were to engage fully. There were professional risks in taking part in the action research, so teachers needed to feel happy with the focus of their research. Ownership by the school leadership as well as the individual teachers made it more likely that the action research initiative was given time over other competing school agendas.

Attention and reflection
Attention and reflection were central to the process of action research, especially when considering an area as wide and complex as inclusion. Groups needed to set aside time to review what they had done and systematically evaluate the consequences of their actions. These stages were necessary if teachers were to refine and develop their interpretations and solutions, rather than simply continue with new practice without reflecting on its value. Facilitated group time helped teachers to begin to shift some deeply-held assumptions about pupils, their colleagues, themselves and their practice.

Part of the process of attention and reflection for this project was the sharing of progress between teacher action research groups from different schools. Comparison with the action research in other schools was a source of ideas and motivation.

Realism
A final area which the researchers identified as important in successful action research on inclusion was to keep it grounded in 'the real world'. The researchers concluded that it was unrealistic to expect teachers to divorce themselves from the reality of their social and professional relationships and to expect too much from the action research model.
For example, the same teachers were observed at one time justifying their current practice with difficult pupils and explaining pupils' difficulties as being a result of factors outside of the school's control, and, at other times, stressing the value of talking to pupils and stressing the importance of changing practice.
The researchers concluded that the action research process should allow teachers to articulate these seemingly conflicting views at different times. The researchers concluded the model was a potentially powerful tool for improving practice, but one which needed to be set in the context of busy teachers with conflicting priorities and pupils with rich and complex influences on their lives.

How was the evidence gathered and analysed?
The research was carried out in seven comprehensive secondary schools in six local authorities (four in Wales, two in England). It was led by researchers from the faculties of education at Trinity College, Carmarthen and the University of Manchester. The aim was to develop inclusive practice using action

research.

A group of teachers in each school developed a piece of action research aimed at enhancing pupils' attitude to and engagement with learning. Educational psychologists facilitated the process through regular contact with each group.

The project took place over two nine-month periods which meant that the process could be improved the second time, based on findings from the first.

Evidence was generated at three levels:

Teacher level
eachers' knowledge and opinions about action research and inclusion were assessed by questionnaire and focus groups at the start of the project (46 teachers). Researchers visited the teachers for further interviews during and at the end of the project and there were four networking days for the teachers with video conferencing between the English and Welsh groups. They asked the teachers to reflect on what they thought of the process and what impact it had had on their practice and their pupils. They also interviewed the six educational psychologists individually and during regular project meetings.

School level
The researchers interviewed the seven headteachers at the beginning and end of the project and teachers themselves added to feedback about school level factors. The researchers also made classroom observations and staff discussions during school visits. Each local authority provided background information on each school.

Pupil level
The pupils completed three questionnaires before and after the teacher-led projects. These tested pupils' assessment of the inclusivity of lessons. One questionnaire explored what pupils thought of classrooms which had enquiry and a more individualised approach to learning. The other questionnaires measured 'What I think about school' and 'Myself as learner'. This data was backed up by pupil focus groups. Altogether, 649 pupils were involved in the research.

Implications
Teachers might like to consider the following questions in making use of the findings of the study:

- The study showed the value of collaboration in improving practice, through reflective discussion with colleagues and mutual encouragement. Could you make more use of collaboration with colleagues to improve your practice, for example by using departmental meetings to reflect on practice?
- Some of the teachers were encouraged by the fact that focusing their action research on inclusion had made them look for different ways to engage pupils who they had previously seen as difficult to engage, for example by finding things to praise about each pupil or by creating large visual teaching aids. How might you look, with colleagues, for new ways to include groups of disengaged pupils?
- The study concluded that collaborative action research can bring personal and professional benefits to teachers which are as important as improvements in classroom practice. Could you do more to invest in your own learning and professional development, for example by joining an action research project or finding a mentor?

School leaders might like to consider the following implications:

- Several headteachers at schools involved in the study came to see the value of supporting long-term action research, as opposed to more traditional 'quick fix' one-off inset training. How might your school expand the opportunities for teachers to engage in research and enquiry?
- The study also stressed the need for deep thinking, honest reflection and listening to pupils, before making choices about the best action to improve inclusion. How can you ensure that your staff are given this time to reflect, rather than moving to the action phase too quickly?
- The study also showed the benefits of having educational psychologists facilitate action research, especially their non directive approach and relative distance from school management. How might you make use of external partners to

facilitate enquiry and CPD within your school?

Gaps in the research
Gaps that are uncovered in a piece of research 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. We think the following kinds of studies would usefully supplement the findings of the summary:

- case studies of approaches by teachers which have had a direct and significant positive impact on inclusion or the implementation of action research
- studies which look at what factors best support teachers in carrying out action research
- studies which look more closely at the areas of inclusion which are best suited to development through action research, and
- more research on how best to disseminate the positive learning from action research, both within and between schools.

What is your experience?
Do you have any evidence regarding strategies for improving inclusiveness through action research? Do you have action research or enquiry based development programmes that are designed to explore inclusive practice? We would be interested to hear about examples of effective approaches, 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, which we can share and use to inform our work. Click on the link 'Tell us what you think' above to share your views with us.
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Case studies

We have chosen five case studies, all conducted by teachers, which illustrate aspects of the findings of the study, covering both action research and inclusion.

- The first case study describes one strategy for inclusion which improved Year 2 pupil talk in groups, leading to increased participation in lessons.
- The second case study describes the benefits which two teachers found from mentoring each other's action research, despite initial scepticism from both teachers.
- The third case study describes an action research project conducted by two secondary mathematics teachers and successfully facilitated by an educational psychologist.
- The fourth case study is of a school which invested heavily in an action research project to improve lesson planning and pupils' thinking skills. The study impacted positively on inclusion for all pupils, especially by improving differentiation for more able pupils and identifying support required by pupils with special needs.
- The fifth case study looks at the experience of action research in a network of schools and the most useful support mechanisms which they identified.

Case study 1

Case study 1: Inclusion through improved talking skills
We have chosen this case study because it shows how inclusion was tackled by targeting communications skills of all children. The children involved were more able to take active involvement in lessons as a result. The 'Talking for Success' project was designed to improve children's access to education through teaching them how to interact and reason with each other.

What was the background to the study?
Poor communication skills had been identified as reducing children's participation in lessons, excluding them from learning activities and resulting in lower levels of achievement. Six year 2 teachers from three schools in the south of England spent two days developing a programme of lessons designed to improve children's

spoken language and group talk skills. The schools had a high proportion of children from low income families who had recently arrived from the Indian subcontinent and for whom English was an additional language.

How were the children taught to interact and reason with each other?
The children were taught talk skills during five core 'Thinking Together' lessons. Early lessons looked at the importance of talk while developing skills such as listening, sharing information and cooperating. Later lessons encouraged critical argument for and against different cases.

Some of the key features of the lessons were:

- the learning objectives for group talk were made explicit in the introduction
- groups reflected on the quality of their talk in plenary sessions
- the class were directly taught skills such as asking questions, and
- the teacher focused the class on the quality of their talk, intervened to support groups during discussion and acted as a model when talking to the class.

The classes also created and agreed upon a set of ground rules for talk that would enable them to reach a group consensus. These included:

- everyone in the group is encouraged to speak to other group members
- all relevant information is shared
- contributions are considered with respect
- challenges are accepted, and
- the group takes responsibility for decisions.

The children worked in mixed ability groups of three during these lessons.

What was the impact of the intervention?
All the teachers in the target schools felt that the programme had had a positive impact on collaboration, participation and inclusion in their classrooms. Specifically, they reported that their quiet children became more confident and participated more in discussions. They asked more questions and gave reasons more often than the non-participating group of children. They also learned to involve each other, listen carefully to what each other said and respond constructively, even if their response was a challenge. In addition, target group children completed more puzzles correctly on a reasoning test after the programme than before. None of these impacts were observed in children in a control group.

In terms of use of language and participation, children's use of 'because' and 'what/why' task related questions increased over the period of the programme. This was illustrated in the following exchanges within one target group of children. The children (Nuresha, Vijay and Kyle) worked together on a reasoning problem before the programme started and again after the programme finished. The problem involved selecting one picture of a jigsaw piece out of six possible pieces, which they thought would fit into a blank space on a geometric pattern.

Before the programme
Nuresha did not speak at all and was disengaged from the task. Shortly after starting on the task, Vijay and Kyle started to disagree over the answer and who should record it, without attempting to provide reasons for their opinions or seek each other's views:

Vijay: It's this one, isn't it?
Kyle: No.
Vijay: It's this one, isn't it?
Kyle: No.
Vijay: Yes.

Kyle: No.

After the programme
The children worked on exactly the same task in the follow-up video, but in a completely different way. This time, Nuresha was more involved in the group's shared reasoning - encouraged by the other two children, who now listened to one another and consider each other's viewpoints:

Vijay: (to Nuresha) You have to say 'what do you think, Vijay or Kyle?'
Nuresha: I think that (number 2)
Kyle: I think that (number 4)
Vijay: Nuresha, look.
Nuresha: I think, that, that, that.
Kyle: No, because, look, because that goes round. It goes out. It goes out.
Vijay: Or that one.
Kyle: No, because it hasn't got squiggly lines.
Vijay: It has to be that.

The children answered two more questions correctly (out of 15) during the second test than in the first, working together more effectively as a group to solve the problems after the programme than they had before.

Reference
Wegerif, R. et al (2004)
Widening access to educational opportunities through teaching children how to reason together
Westminster Studies in Education Vol. 27, No. 2, 2004

Case study 2

Case study 2: The benefits of the teacher mentoring model for action research
We have chosen this case study because it showed the benefits to teachers engaged in action research from establishing a mentoring relationship. The two teachers who mentored each other's research found that that the personal and professional benefits to them were at least as important as the classroom research they were undertaking.

Who undertook the study and why?
Two teachers from a large secondary school in Southampton conducted the research as part of their MA studies. The two teachers, one English and one geography teacher, worked independently on classroom based action research projects and acted as research mentors to each other.

The primary aim of the project was to provide a supportive, pro-active and practical mentoring partnership in which individual teachers could conduct their independent action research.

How was the study carried out?
The teachers mentored each other in their action research. The English teacher focused on releasing the capacity for imagination within the constraints of the Literacy Strategy, using a Year 9 group. The geography teacher focused on ways of engaging pupils using research on Multiple Intelligences, structuring a series of lessons for a Year 8 Geography group.

The teachers were initially more interested in their individual research than in the mentoring relationship. The MA required the teachers to engage in mutual research mentoring and to consider their needs as novice teacher researchers. Once the collaborative relationship had been established, the teachers read some research literature, to help them to develop an approach to mentoring from which both teachers would benefit. They offered each other a 'supportive, encouraging and understanding ear that worked in parallel with a candid and critical eye'.

The research mentoring relationship developed through scheduled and ad-hoc meetings. Much of the day-to-day mentoring and critique of individual action research took place electronically in the form of email using a web-based snapshot. The teachers wrote individual reflective journals and this helped them to develop critical reflective thought, engagement with and analysis of the mentoring support that had been received.

The teachers took elements from three mentoring models to guide their mentoring relationship.

- A stepped mentoring relationship that changed as the competencies of the mentee improve with practice. This mentoring relationship moved from one of 'apprenticeship' to one in which the mentor and mentee acted as co-enquirers, both working as equals in the process of enquiry.
- Mentoring as a 'synergised learning process' with a two-way exchange, rather than a one-way apprenticeship where the mentor passed information to the mentee.
- Mentoring based on honesty, openness and trust, assisting the action research process and encouraging new mentoring relationships to develop and flourish.

The teachers first classified their innate mentoring styles against these models and then used them to guide their relationship. The teachers favoured the apprenticeship model at the beginning of the process, but as the project progressed they came to appreciate that they had the knowledge and skills to develop a helpful and mutual mentoring relationship - a 'creative collaboration between teachers as researchers and other researchers'.

What did the study find about mentoring action research?
The teachers concluded that the process had provided three key benefits to them:

Becoming a reflective practitioner
Both teachers felt that they had been given the opportunity and skills to become reflective practitioners, and they were confident this had improved the quality of their teaching and learning for their pupils. The teachers concluded that they had been wrong to initially believe that this type of support was the role of the course tutor as 'expert'.

Challenging personal and professional practice
The demands of the mentoring model provided the professional challenge needed and there were personal and professional benefits from the strong mentoring relationship which developed.

Re-evaluating the nature of mentoring and its benefits to action research
As a result of the project the teachers' original views and preconceptions about mentoring were completely re-appraised positively. Initially, the teachers were both reluctant and reticent about pairing up with a research mentor and were keen to be self-sufficient. However, they both came to appreciate the benefits of working collaboratively with a fellow researcher and the gains being in a partnership can bring. An important learning point for them was that mentoring should be a two-way process.

The two teachers had previously encountered unsupportive and uncooperative mentor relationships that had proved destructive and demoralising. It became clear to them that a research mentor was very much someone who asked probing and open questions, but left the mentee to make up their own mind and formalise their own ideas. The importance of constructive and honest feedback was also identified.

The experience of research mentoring created a new and rejuvenated enthusiasm for professional development and for teaching itself. At the end of the project the teachers felt more confident in their own abilities as both action researchers and as research mentors.

Reference
Chipping, D. & Morse, M. (2006) *Using a supportive mentoring relationship to aid independent action research*
National Teacher Research Panel

Case study 3

Case Study 3: Facilitated action research to improve practice
We have chosen this case study because it shows how a facilitator helped to lead an action research project for two experienced teachers. The teachers found the process valuable and it led to several effective changes in practice which became embedded in their department.

What was the background to the study?
The study took place in a secondary school which was involved in the wider research project which this RfT describes. The head of the mathematics department bid to host some action research in his department, having seen the impact of the action research in another department during the previous year.

Two experienced mathematics teachers formed the collaborative groups which undertook the action research. Interventions were targeted at boys in two Year 9 mathematics classes who were on the borderline of achieving good grades at GCSE.

What role did the facilitator play in assisting the action research?
The two teachers were facilitated in their research by an educational psychologist. The teachers concluded that the educational psychologist had assisted the action research process in three important ways:

Keeping things on track
The facilitator was the key to getting the project started (via a focus group) and in sustaining interest (via regular pre-arranged meetings). The teachers found it useful to know in advance that their facilitator would be coming into school to hear of progress. This ensured that other priorities did not take over and lead to loss of focus or delay.

Stimulating deeper discussion
The teachers found that their discussions without the facilitator were useful but very task focused whereas when the facilitator was present, asking probing questions and querying beliefs and opinions, the conversation became deeper and had a more emotional focus. The teachers acknowledged that they would not normally get the opportunity to talk with an educational psychologist in such depth about teaching and learning.

Providing challenge and showing interest
A further key role of the facilitator was to provide the space and challenge to allow the teachers to reflect on their practice more fully. The fact that the facilitator showed a genuine and keen interest in the research was a stimulus in its own right. The teachers also felt that their facilitator 'asked the right questions at the right time', making them consider how pupils learn, why their current teaching practice had developed as it had and how they might experiment with new approaches.

What changes in practice did the teachers implement?
Pupils were invited to circle a range of emotions and feelings as they applied to them in relation to learning mathematics. They were also asked to rate their enjoyment of teacher-led lessons, group activities and pair work. As a result of these baseline measures the two teachers decided to change the way they worked with pupils. They 'took the curriculum apart', asking themselves how they would normally teach something and how it could be done differently. Some of the main changes in practice were:

- more group and pair work
- creation of large kinaesthetic resources, for example A3 laminated graphs, and
- more practical teaching of algebra, shape & space and graphs.

What were the outcomes of the study?
Pupils were given a follow-up questionnaire at the end of the project. They were asked what had changed in mathematics lessons and whether this had been positive. The responses were generally positive, suggesting that a difference had been made to pupils' feelings about mathematics. Pupils also generally reported that they felt well prepared for upcoming exams.

The teachers also asked a colleague to interview a sample of pupils about their mathematics lessons at the end of the project. An extract from one of the interviews is found below:

Interviewer: Has anything changed in your maths lessons this year?
Pupil A: The syllabus
Pupil B: We do more practical lessons...We work in groups, make things.
Pupil C: When we did probability, we did dice rolling. Then we had symbols on the board.

Interviewer: Is that the best bit?
Pupil B: Practicals are a bit more fun, if you can use that word.

Interviewer: Do you like maths?
Pupil B: No (smiling)

Interviewer: But that's quite fun when you do that sort of thing?
Pupil B: Yeah. It feels easier.

The pupils went on to describe several other practical activities which they remembered from mathematics lessons.

Pupil C: When you use your hands, you remember it; when you use your brain, you forget it.

The pupil feedback gathered from the interviews was generally positive and validated the teachers' views of their changes in practice.

Another result of the project was resource sharing which became a focus across the whole mathematics department. The head of department also took one of the activities he had developed to a heads of department meeting within his local authority. This stimulated a lot of interest and a mushrooming of ideas.

Finally, the teachers were surprised to find how much they enjoyed the research project, particularly the opportunity it provided for reflection and collaboration.

Reference
Howes, A. et al (2008) *Learning together: Collaborative Research for Inclusion.* Learning and Teaching Update

Case study 4

Case study 4: Tackling inclusion by improving lesson planning, pupil engagement and school morale
We have chosen this case study because it shows how an action research model was used in one primary school to support change across the whole school, much of which focused on inclusion. Teachers introduced the TASC ('Thinking Actively in a Social Context') framework through action research. It was then evaluated and improved before being implemented across the whole school. Impact on teacher motivation, pupil learning, parent involvement and school morale was positive, as reported through teacher observation and in a subsequent Ofsted report.

What were the aims of the project?
The school involved in the project was a primary school of 325 pupils with 20% of pupils with Special Educational Needs. An Ofsted inspection had reported unsatisfactory progress of pupils, lack of effective management and lack of a whole school approach leading to lack of coherent planning and organisation. Staff and governors lacked vision and parents seldom came inside the school. The aims of the project were therefore wide ranging, to:

- improve whole school lesson planning, classroom delivery and pupils' activities

- personalise learning, with pupils developing their self-evaluation and self-monitoring skills, and
- focus on developing pupil problem-solving and thinking skills.

What was the focus of the action research?
Research was implemented, looking at how to improve whole school lesson planning, classroom delivery and pupils' activities. The particular pupil focus chosen was development of problem-solving and thinking skills. The key to this was the introduction of the TASC framework.

The teaching and learning objectives developed by the school using the TASC framework were:

- **Gather and organise** - gather and organise what the children already know
- **Identify the task** - pupils have ownership, choosing the project they want to pursue
- **Generate** - each class generates ideas about how to tackle their tasks
- **Decide and implement** - pupils decide who work with
- **Evaluate and communicate** - pupils present their work to each other, to parents and governors
- **Learn from experience** - time for pupils to reflect on and consolidate their learning.

Staff were introduced to the TASC framework on an inset day. It was introduced to learners through a series of cross-curricular projects lasting half a term. Pupil projects using the framework included:

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- At Key Stage 1 pupils designed a town with roads and buildings in order to explore directions and angles, and also designed and implemented playground games which integrated well with the school focus on constructive physical activity and play.
- Key Stage 2 pupils created and trialled their own Maths games focusing on the four rules of number. They also explored local archaeology, local history and geography.

Children, parents and governors were involved in all projects and were invited to the children's celebrations, presentations and explanations of their work. All classrooms had a TASC problem-solving wheel. Projects were spread over half a term.

The action research process was ongoing, including a cycle of discussion with pupils, parents and governors, followed by trialling, evaluating and reflecting on progress as a whole school.

The success of the action research projects resulted in them being applied across the curriculum, combining the problem-solving skills and strategies with a range of teaching skills, such as whole class teaching, practice activities, demonstration and the provision of a greater variety of individual and group activities.

What were the main outcomes from the action research?
After introducing a whole school approach to problem solving, the school experienced:

- higher levels of 'inclusion' with 'differentiation' - more suitable support for pupils with special needs and appropriate differentiation for higher attaining pupils.
- increased pupil motivation and a reduction of inappropriate behaviour
- greater involvement of parents and governors
- increased co-ordination and flexibility in approaches to lesson planning, and
- an improvement in pupils' work.

A subsequent Ofsted report commented particularly on:

- coherent planning across the whole school
- evidence of assessment for learning
- a good inclusion and differentiation policy
- positive behaviour of pupils towards learning, and
- the positive morale of pupils, teachers, governors and parents.

Pupils had acquired and were using independent enquiry skills, and were more confident in individual and

small group work. Pupil self-esteem and enthusiasm were also improved.

Staff commented on their increased enthusiasm, their joy in team work for planning and practice and their professional satisfaction with their work. Staff also reported becoming more flexible in their use of teaching and learning activities.

Parents and governors commented on the happiness and excitement of the children, their willingness to work at a task and the warmth of the welcome they received whenever they went into school.

Reference

Riches, P. & Wallace, B. (2006) *Developing a policy of inclusion with differentiation using TASC: Thinking Actively in a Social Context.* Paper presented to the NTRP Research Conference 2006.

National Teacher Research Panel

Case study 5

Case study 5: Supporting teachers to engage in research and share their learning

We chose this study because it explored ways of supporting and establishing teacher research within a school or a network of schools. The study followed teacher researchers in nine schools over two years, to discover ways of supporting them to make a difference to their practice and to share their learning with colleagues.

Where, when and why did the study take place?

The study was carried out in nine secondary schools and involved 25 mathematics teachers. There were two teacher researcher groups, each employing different research methods. The teacher researchers were supported by two mathematics consultants. During the project, the nine schools joined together formally in a Networked Learning Community (NLC).

The mathematics consultants leading the study suggested that two teacher research groups be established to work on behalf of all the schools in the network.

Aims of the project

The main aim of the project was to explore how to establish teacher research as an effective and sustainable form of continuing professional development. It was hoped that this would contribute to the development of the schools and the network as effective professional learning communities. The project set out to identify:

- what motivated teachers to both engage in practitioner research and to sustain their involvement over time
- what forms of support teacher researchers needed for their work to be successful, and
- how the learning generated by teacher research could be effectively shared with colleagues within a school and across a network of schools.

What were the key findings about establishing teacher research?

The project found that teachers were motivated to engage in and continue with research because:

- their work seemed to make a positive difference to their teaching and their pupils
- they felt they were being treated as professionals and expected to think deeply about their practice, and
- they were part of a group of supportive and challenging peers.

The study also concluded that teachers needed a range of support in order for their research to be successful. This included external support in the form of seminars and critical friends, protected time and internal support from within their school in the form of interest and encouragement.

The study found that the learning generated by the teacher research needed to be communicated through both regular updates on progress to a range of audiences and via well structured final reports.

Strategies used in leading the teacher research work

The case study summarised the work of both teacher researcher groups who had a different research question each:

- Group one considered: 'How do we engage pupils in the effective learning of mathematics?'
- Group two considered: 'How can the use of ICT effectively enhance the learning of mathematics?'

Each teacher chose a research focus related to the theme and committed to a research group for at least one full academic year.

The consultants were called 'critical friends' or 'research mentors' and offered various forms of support, including:

- identifying and introducing appropriate research methodologies for each group
- holding regular seminars for both groups
- offering one-to-one support to researchers (e.g. school visit or classroom observation), and
- supporting teachers in sharing their work with other teachers.

Support for the dissemination of the findings was provided by a standard writing frame to be used by all the teachers. Later on in the project a DVD was produced (called 'Learn and Share') which was distributed to all mathematics teachers in the network.

Reference

Westwell, J. (2006) *Sustaining teacher researchers: what support really makes a difference?*
National Teacher Research Panel

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Further reading

The project

The project website

The Teaching and Learning Research Project website

Related research

McNiff, J. & Whitehead, J. (2005) *Action Research for Teachers: A Practical Guide.* London: Routledge

Armstrong, F. & Moore, M. (2004) *Action Research for Inclusive Education Changing Places, Changing Practices, Changing Minds.* London: Routledge

McClaughlin, C. & Black Hawkins, K. (2005) Practitioner *Research and Enquiry in Networked Learning Communities.* Cambridge: University of Cambridge.

Howes, A., Ainscow, M., Farrell, P. & Frankham, J. (2002) The action in action research for inclusion: intention, iteration and impact. Phase I Network: Understanding and Developing Inclusive Practices in Schools - Paper 3.
Paper presented at the ESRC Teaching and Learning Research Programme Conference.
Huntingdon, 23-34 September, 2002.

Avramidis, E., Bayliss, P. & Burden, R. (2002)
Inclusion in action: an in-depth case study of an effective inclusive secondary school in the south-west of England

.
International Journal of Inclusive Education. 6 (2), pp. 143-163.

Ainscow, M., Howes, A., Farrell, P. & Frankham, J. (2003)
Making sense of the development of inclusive practices
European Journal of Special Needs Education. 18 (2), pp. 227-242

Meacher, C. (2002) *Mentoring as a crucial part of action research*

Getting Started with Networked Research Lesson Study. National College of School Leadership (2005)
Nottingham: NCSL
Networked learning publications directory

Writing Research and Enquiry Summaries
CUREE and NCSL
Networked learning publications directory

Research tasters

A variety of research taster activities designed to help teachers carry out their own enquiries in a wide variety of areas based on RfT evidence and also on the evidence presented in the behaviour learning anthologies are available on the GTC website.

RfT research tasters

Behaviour for learning research tasters

Research tasters related to promoting equality for ethnic minority pupils

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Appraisal

Robustness
This project involved seven secondary comprehensive schools (five in Wales and two in England) in developing their inclusive practice using action research. In each school, a group of teachers worked together to develop a piece of action research to enhance pupils' attitude to and engagement with learning. Educational psychologists facilitated the process by holding regular meetings with the teacher group. The researchers followed what the teachers, school leaders and educational psychologists did in order to understand the challenges of the process in each school. The project took place over two nine-month periods which meant that the process could be improved the second time, based on findings from the first.

The researchers:

- used questionnaires to investigate teacher, pupil and the educational psychologists' views before and after the process
- held focus group discussions with teachers and pupils to further develop an understanding of their perspectives
- interviewed head teachers at the beginning and the end of the project, and
  asked the educational psychologists for their views about the development of the process in regular project meetings.

The changes the teachers reported to their practice included:

- inviting pupils to set group targets for lessons with a view to achieving rewards
- offering pupils choice of learning through different materials
- increasing the amount of and structuring group work in response to pupil preferences.

Following the changes, the pupils involved in the inclusion work participated more, showed significantly increased motivation and in some cases attained at a higher level.

The key factors the researcher identified as helping the teachers make changes to their classroom practice were that they:

- had ownership of the action research they undertook
- worked collaboratively
- focused on the effects of their practice on pupils' learning and participation, and
- had the support of the school management.

The facilitators needed certain skills to enable the projects to move forward. The study found a number of effective approaches adopted by the facilitators:

- the 'minute taker' assumed a low-status role but was able to maintain momentum and direct the detail of the process
- the 'conversationalist' occasionally stopped the discussions short with a really well directed critical question
- the 'strategist' kept cool in the face of the continuing frustrations of getting a group of teachers to debate and looked for alternative approaches in the expectation that something would happen soon, and
- the 'carrier of the backpack of ideas' allowed discussions to flow and brought out theoretical ideas as and when they were useful.

The support of the school management was vital too. It was important that leaders demonstrated, for example, active concern and interest, provided 'professional space' for teachers to develop new thinking and practice, helped with access to resources and encouraged dissemination rather than be directly involved in the teachers' action research.

Relevance
Many teachers find implementing inclusion a major challenge. Teachers may also be unfamiliar with the process of action research and unaware how it can be used to develop their practice and their pupils' learning experience, whilst leaders may be uncertain about how to support their colleagues as they engage in action research. This project helpfully provides support on all three fronts: it shows how teachers can make their practice more inclusive through action research and how leaders can introduce and sustain a culture of enquiry and reflective practice within their school. Although this research involved secondary schools, the findings and processes used are applicable to all phases.

Applicability
This project illustrates how action research can draw more teachers into the challenge of engaging all their pupils in learning. It also shows one way of getting action research going in schools. This involved teachers working collaboratively and having ownership of the research, and focusing on the effects of their change in practice on pupils' learning and participation. Ownership meant that teachers didn't view action research as another imposition on their time and energy. Owning their own projects released their energy and creativity. Facilitators needed to understand the nature of action research and supported groups of teachers in systematically evaluating the consequences of actions to help them refine and develop their interpretations and solutions. Leaders needed to show that they value the process of action research.

Writing
The project findings are spread across a number of separate papers, but the project briefing provides a helpful overview of the whole project, whilst the book provides more detail. All the outputs are clearly written and many helpfully include a selection of illustrative quotes and case study examples. But teachers may find the researchers' explanations of the relationship between their findings and the theoretical background a little overbearing.
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