Research for Teachers

Grouping pupils and students

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Selection and ability grouping are issues that can cause heated debate amongst teachers, leaders and parents, as they can hold very different opinions about which of the alternative approaches to grouping they prefer.

Those who favour streaming and setting make claims for its effectiveness in terms of pupil or student achievement; those against point to the 'unfairness' of the system and its potentially negative effects on pupils' and students' self esteem. For this TLA research summary we looked at a detailed study of ability grouping to help practitioners consider the various effects different grouping practices have upon learners.

The study is:

Ireson, Judith and Susan Hallam. *Ability grouping in education*. London: Paul Chapman Publishing, 2001.

The researchers conducted two studies - one involving six primary schools and the other involving 45 secondary schools, to examine the effects of different ways of grouping pupils and students. They interviewed primary pupils, and used questionnaires with secondary students, teachers and school leaders to investigate pupils', students' and teachers' attitudes towards ability grouping, learners' self image and teachers' classroom practice. In the secondary school study, the researchers used results from national tests at age 11 and 14 to investigate the impact ability grouping had on pupil and student attainment and progress. They also examined factors that underpin school ability grouping practices, such as school values, external pressures and organisational problems.

The researchers concluded that:

'Increasing the extent of setting and banding in our schools will not provide an effective solution to the problem of underachievement...Equally, mixed ability teaching...has not provided an appropriate learning environment for all pupils to reach their full potential'.

The researchers suggested that 'a key issue is the flexibility to meet the changing needs of the learner,' at school, class, group and individual levels. Reflecting on the findings presented in this study will help practitioners group their learners in ways that best suit their particular circumstances.

About the terms used in this summary:

- The term 'ability grouping' is in widespread use in educational literature. In this context 'ability' is not defined and, in effect, the term refers to grouping by some measure of attainment. It encompasses a range of ways of grouping pupils and students - from strict setting by attainment to 'mixed ability' groups.
- We use the term 'pupils' to denote primary aged children and 'students' to denote those of secondary age.
- The term 'learners' is used to denote both primary pupils and secondary students.

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Overview

Why is the issue important?

Raising awareness about the impact different forms of ability grouping can have could help teachers consider how they can best group learners to help improve their academic attainment whilst promoting positive social and personal development.

What did the research show?

There was evidence that grouping by ability did not raise attainment for all learners and led to some pupils and students feeling unvalued, resulting in the lowering of their self-esteem and increased levels of disaffection. Ability grouping brought with it a number of practical issues, including placing learners accurately into groups and movement of learners between groups. Whilst mixed ability teaching helped provide equal opportunities and improve the self-esteem of all learners, teachers felt that teaching such classes effectively was a challenge, particularly differentiating the curriculum.

How was this achieved?

he researchers suggested that students' progress within the different approaches to grouping may have been affected by differences in teaching methods as much as the group structure. For example, teachers:

- differentiated work more in mixed ability classrooms than in classes grouped by ability
- gave a more stimulating environment, faster pace and more pressure to higher ability groups and had lower expectations of lower ability groups.

How was the research designed to be trustworthy?

The researchers collected questionnaire and interview data from pupils, students, teachers and school leaders from forty-five secondary and six primary schools, and results from national tests at age eleven and fourteen to investigate the impact ability grouping had on pupil and student attainment, progress and self image. They investigated pupils', students' and teachers' attitudes towards ability grouping and teachers' classroom practices. They also examined other factors that underpin school ability grouping practices, such as school values, external pressures and organisational problems.

What are the implications?

Schools which set pupils by their ability might consider how they could:

- facilitate movement between sets, based on students' achievements, for example by running bridging classes or additional modules in core subjects
- boost pupils' and students' self confidence, for example by demonstrating that skills other than academic attainment are also valued, such as effort, sporting prowess, artistic or musical achievement or creativity.

Teachers of both mixed ability and set classes might consider how they could:

- ensure work is matched to pupils' and students' ability levels, for example by organising within-class groupings in set classes to provide pupils and students with differentiated tasks
- increase the opportunities for discussion for less able pupils and students
- review the amount of detailed feedback they offer to higher ability pupils or students.

What do the case studies illustrate?
The case studies show how:

- a secondary school set about matching work accurately to students' needs, using a 'four-tiered' curriculum
- some teachers found that planning questions in advance designed to probe more able students' knowledge and understanding, helped them to ask questions differentiated by ability
- a teacher included differentiated tasks for Year 7 students who worked in ability-determined groups within a mixed ability class to enable her to challenge the more able students in the class
- a school helped students gain positive self-esteem and improve attainment by giving them more choice over the subjects they studied.

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Case studies

The following case studies illustrate the variety of grouping approaches adopted by schools and teachers in response to the needs of their students. The case studies we have chosen to present include three (1,4 and 5) highlighted by the authors in the main study as examples of innovative practice. They were described in an earlier research report written by one of the authors. The other two case studies (2 and 3) were written by classroom teachers based on their own research.

A four-tiered curriculum in every subject

We have chosen to present this case study because it is an example of how a secondary school (a City Technology College) set about matching work accurately to students' needs, using a four-tiered curriculum. The authors highlighted this example of innovative practice in their main study, by which time the four-tiered system had been running for seven years, starting from when the college first opened. Schools planning to try this four-tiered system themselves may want to consider starting in a similar way - beginning with a new intake of Year 7 students and working the system up through the school, year by year.

The college used both mixed ability and setting approaches to grouping, but all classes used the four-tiered system. In years 7 and 8, students were taught in mixed ability tutor groups for all subjects. In years 9, 10 and 11, the students were split up into sets for mathematics, science, English, French, history, geography and technology, but the students remained in mixed ability groups for art, music, drama, PE and RE. Many students at the school came from underprivileged homes.

The four-tiered system was applied at all times and in all subjects throughout the school. In each subject, students chose to work at one of the following levels:

BASIC - the minimum acceptable for a student of a particular age
STANDARD - the average performance expected for a student of a particular age
EXTENDED - above average performance for a student of a particular age
ADVANCED - at least one year in advance of an average student of a particular age
There was a Fast Track early entry to GCSE for those students consistently working at extended and advanced levels.

All departments used the differentiated structure, but planned for the four tiers in their own ways. At the beginning of each week, teachers described the different tasks for the different tiers. All students learned the same skill - the difference came in the level of difficulty to which the skill was taken. Students decided for themselves which level they would attempt and negotiated the levels of work they wanted to attempt with their teachers. Students could change level (up or down) if they wanted to work harder or if they found the

work too hard.

Irrespective of whether a department chose mixed ability grouping or setting, they all used a four-tier system to group students in their classes. Hence different classes contained different proportions of students at the four levels described. In no case was there a completely BASIC group. Sometimes, teachers imparted knowledge; at other times teachers acted as a resource and guide. All the teachers monitored the students' progress carefully and thoroughly, checking the levels they were working at and giving very specific feedback on how individual students' work could be improved.

The college reported the programme had a strong impact on:

- student motivation - the teachers believed that being able to choose their own level empowered students whilst the students were enthusiastic about being able to move up a level
- students' understanding of their own capabilities - many Year 11 students accurately predicted their GCSE results
- students' self-esteem - as achievable targets were set for everyone, all students felt they were achieving and students who had been identified as SEN at their primary schools did not feel labelled as SEN because they followed the same system as everyone else
- student achievement - the percentage of students achieving Level 5 or above in the Key Stage 3 tests was higher than the national average and few students gained grades F, G or U at GCSE level.

However, the staff also reported two main drawbacks to the four-tiered system. These were:

- preparing work at four levels was hard work - as there were not always commerciallyproduced resources available, teachers had to be innovative and creative
- some teachers could find it difficult adjusting to the structure, pace and expectations if they were not used to adopting the role of facilitator and assistor, or planning lessons at more than one level.

The students' enthusiasm for the four-tiered system was demonstrated during interviews. The following comments were typical:

'In most subjects we get lots of useful comments on our work'.

'Teachers keep checking that you are not always doing the easier level'.

'If you keep getting good marks in your STANDARD work and you are always doing STANDARD work ... the teacher would probably suggest that you start doing EXTENDED level work ... that happened to me in RE'.

'If you attempt a better level than you are at ... you're likely to guess at all your answers and come out with a lower level. So it feels good to aim at the right level and get good results'.

'You keep working at your hardest so you can move up a level in everything'.

Reference: This case study was featured in the DfEE (now DfES) report, 'Innovative grouping practices in secondary schools,' by Judith Ireson (1999)

Fostering the more able

We have chosen to present this case study because it shows how some teachers found that they tended to underestimate the number of more able children in a class. If they planned questions in advance which were designed to probe more able students' knowledge and understanding, they were better able to ask questions differentiated by ability. Asking differentiated questions is important in both setted and mixed ability classes.

This study found that when teachers used their own judgement to identify more able students, they tended to overlook some of the more able students in their classes. They needed to plan questions in advance to ensure that they asked questions particularly appropriate to more able students during lessons. The study focused on two Year 7 tutor groups in an inner-city, multicultural comprehensive school, where around 90 per cent of the school's intake spoke English as a second language.

Teachers who taught students in two Year 7 tutor groups were asked during INSET time to identify the more able students in their teaching groups using:

- their own judgement
- a non-verbal reasoning test (to try to eliminate the language factor when assessing the students)
- data from primary schools, such as reading ages, E2L needs analysis and Key Stage 2 test results.

In addition, the students were tracked for three days to observe their experiences across the whole curriculum.

When the teachers just used their own judgements, the students with poor literacy skills, but high scores in the Key Stage 2 national curriculum tests and the non-verbal reasoning test tended not to be identified as potentially more able, except in subjects such as art, drama, music, PE and some modern languages including Punjabi and Gujariti. The poor quality of some students' written work appeared to mask their ability level.

Once the teachers had identified the more able students in their groups using all the available data, they started to focus on how to meet their needs through the questions they asked during lessons. Much of the teaching in the lessons was based on questioning. Many of the questions asked by the teachers involved recall and comprehension. Questions that met the needs of very able students were ones which demanded analysis, problem solving, synthesis or evaluation, but teachers found these types of questions difficult to think of and ask spontaneously in the classroom. When the teachers asked questions requiring complex thinking skills which they had planned in advance, they found:

- more students were involved in answering questions
- the more able and the weaker students participated
- more students concentrated and were involved
- unexpectedly, classes were able to concentrate on the questioning for up to 45 minutes.

The study suggests that a great deal of care needs to be taken when setting to make sure we have identified the students accurately and that a planned use of questioning can be effective in assessing the ability of students.

Reference: This research project was commissioned by the Teacher Training Agency as part of the Teacher Research Grant Scheme 1996/7 and was written by Jan Richardson, Crown Hills Community College, Leicester.

Differentiating activities within a mixed ability Year 7 class

We have chosen to present this case study because it shows how a secondary English teacher gradually included differentiated tasks for Year 7 students who worked in abilitydetermined groups within a mixed ability class. The teacher was concerned mainly with challenging the more able students in the class.

This is a particularly useful practical example of within class grouping because the practice is far less common in secondary classrooms than it is in primary ones. Though the differentiated work was provided for a mixed ability class, the approach is equally applicable to setted groups, as these groups can also contain a wide range of ability.

The class consisted of 24 students who ranged in ability from having very poor literacy skills (functioning

mainly at Level 2), to well above average literacy skills (working at high Level 5 and low Level 6). The teacher wanted to find a way of effectively challenging the six most able students in the class.

The teacher organised differentiated work for a unit on poetry in the following sequence:

- providing simplified versions of Chaucer's *General Prologue to the Canterbury Tales* and simplified tasks for the lower attaining students with teaching assistant support for the weakest students
- dividing the class into five ability groups and giving each group of students slightly different tasks - a different limerick cut up into pieces was given to each group. The students were asked to put the muddled up lines of the limerick into order. Then following a class discussion about the conventions of writing a limerick, each group was asked to write a limerick, although the least able group was asked to write only two lines of a limerick
- the ability groups were given very different texts based on ballads - for example, the weakest group worked together on a storyboarding activity based around the American cowboy lament *The Streets of Laredo*, whilst students in the middle groups wrote a ballad about the life cycle of a product, based on 'John Barleycorn' (the story of making whisky) and the most able group worked together to produce a list of eight questions about the poem, *The ballad of Reading Gaol*. The teacher worked with each of the groups in turn
- finally, the teacher used Dicken's account of his visit to Newgate Prison from *Sketches by Boz* as a basis for a creative writing exercise with the whole class. The more able group were given the text to read as homework before the class exercise. They then provided the rest of the class with assistance and support during the class activity.

The teacher observed the effects of the differentiated tasks upon the students' behaviour and performance. She found that providing simplified texts was helpful for the lower attaining students, but the class work did not challenge the more able students.

When the students were divided into ability groups for the limerick task, the more able students were frequently off-task and disruptive. A sign of their unsettled behaviour was that they called their group "the rebels". The standard of their writing was lower than that produced by the middle group. The more able students resented being asked to improve their work and looked displeased when a middle ability group received applause from the rest of the class for their (better) limerick.

The more able group found the 'Reading Gaol' text very challenging and welcomed the help they received from their teacher, who suggested they used dictionaries to help them understand the difficult vocabulary before starting to think of questions to ask about the text. In the follow-up lesson, the students produced sophisticated responses to their prepared list of questions, for example:

- 'the writer is really on the side of the prisoners because he is one. He speaks up for what it is like to be in prison and makes you feel how horrible it is'.

In the final part of the unit, the more able group were aware that their reading of *Sketches by Boz* had provided them with some enrichment and with useful background material for the whole class creative writing exercise.

The teacher found that providing tasks appropriate to the students' ability and grouping them with their ability peers helped raise the attainment of the whole class, not just the more able students. The weaker students felt less stigmatised. One of the weak students explained why - "I like it when everyone is in groups like us'.

The teacher interviewed four of the six more able students two weeks after the end of the unit to find out their views of the differentiated unit of work. The students indicated they:

- thought they had progressed further and faster in the within-class setted groups;
  did not like easy work because they found it boring
- liked working as a group of six because it made the discussions easier and more interesting
- had enjoyed the creative writing exercise the most

- wanted to continue working in an ability-based group
- thought they would benefit from working with students who were at the same level, whether they were doing the same tasks as the rest of the class or differentiated tasks.

Reflecting on the study, the teacher felt that:

- a combination of differentiated tasks and whole class tasks worked well, demonstrating that including some non-differentiated tasks in a unit was still an effective approach
- the more able students' disruptive behaviour whilst completing the first task to be grouped by ability, may have been due to their unease at being singled out as a more able group rather than being bored due to the work being too easy
- more able students may feel reluctant, resistant or anxious when confronted with more challenging work as they are more likely to experience criticism and failure when attempting work they find hard
- once differentiated work has been provided for more able students they expect more differentiated work - an expectation which teachers should aim to fulfil.

The teacher commented on a disadvantage to providing differentiated work - increased workload, which included producing the variety of resources necessary for five different groups and monitoring the progress of the groups.

Reference: This Best Practice Research Scholarship (BPRS) project was written by Caroline Mortlock (2002).

Student choice within a modular curriculum

We selected this case study because it shows how a school helped students gain positive self-esteem and improve attainment by giving them more choice over the subjects they studied. The school was unusual in that it offered student choice through a modular curriculum alongside a core curriculum. This example of innovative practice was featured by the authors in the main study.

The school was co-educational and most of the students came from an affluent background. Several types of grouping were used in the school - most subjects were taught in mixed ability classes, but mathematics and science was setted from Year 7 and modern foreign languages from Year 8. In Years 10 and 11 there were two bands in English. The modular curriculum gave students the opportunity to choose and specialise. The modular groups were based on student selections, rather than teacher assessments.

The school gave students a taster of the modules in Year 9, but the modular curriculum became more extensive in Years 10 and 11, where it incorporated option choices. The school offered modules that met both the requirements of the National Curriculum and the needs and interests of individual students. The modules were designed as short courses and had 'catchy' titles to arouse the students' interest, for example:

Science: 'Forensic science' - Find out how scientific methods are used to analyse and identify samples of various materials. Is the accused guilty?

Food technology: 'Hot and spicy' - an investigation of some exotic places, people and foods. Find out how herbs and spices are used to enhance your food.

Students took modules either because they were interested in the topic and wanted to learn more about it or so that they could extend their studies in areas where they were experiencing slight difficulty. There were four nine-week modules in Year 9, five twelve-week modules in Year 10 and two sixteen-week modules in Year 11.

Teachers, parents and students saw many benefits of the modular curriculum. For example:

- parents enjoyed having some say in what their sons and daughters were doing in school

- students enjoyed being able to choose subjects they were interested in
- teachers were pleased to be able to offer a flexible system - for instance, students could do two performance arts subjects at GCSE, very able students could do a GCSE through one session a week and students having problems in English and mathematics could take extra modules in those subjects.

The school reported the modular system had a positive impact on:

- student motivation - as one teacher explained, 'the students are all there because they have chosen to be there, not because they have been put there by teachers'
  capturing student interest - for instance, the number of students choosing double science had increased dramatically from ninety to 140 because science teachers had excited the students' interest through a science module in Year 9
- student self-esteem - when students began to achieve in one area, it had a knock on effect in other areas. Teachers noted that there were low levels of disaffection and truancy in the school
- achievement - the best results at GCSE were in subjects that were taught in mixed ability groups as part of the modular curriculum, with the greatest improvement in results being achieved by middle ability students, many of whom achieved C rather than D grades.

The students were also positive about the modular system. They saw many advantages in the approach, as the following comments made by the students involved show:

'You can find out if you really like something'.

'You can move between groups'.

'Your set of friends becomes wider'.

'In a module ... everyone's chosen that so obviously everyone wants to learn that so no-one's going to mess around. There must be an impact on the work because people don't talk so much and concentrate more'.

'You can concentrate on what you really want to do ... so you get better marks instead of an average mark'.

The teachers also identified some disadvantages to running the modular system, including.

- students making stereotypical choices - for example, the food technology group was mostly composed of girls, whilst the science (materials) group was predominantly boys
- too few students studying modern foreign languages, which was blamed on other modules running at the same time
- tracking a student's progress through a subject effectively
- the expense of running the modules in terms of staffing
- administrative difficulties - a secretary was assigned to the modular curriculum coordinator.

However, the school was addressing these problems, by for example, developing a set of shared assessment procedures to support teachers in monitoring progress.

Reference: This case study was featured in the DfEE (now DfES) report, 'Innovative grouping practices in secondary schools,' by Judith Ireson (1999)

An intensive literacy programme in Year 7

We have chosen to present this case study because it provides an example of how grouping can be used flexibly for specific purposes. Year 7 students were withdrawn for an intensive literacy programme, but returned to their mainstream, mixed ability English groups as soon as possible. This example of innovative practice was featured by the authors in the main study.

The school was situated in an area that contained both very expensive and very poor housing. There was a unit for students with physical disabilities and a unit for students with specific learning difficulties. Year 7 students who were identified at the start of the school year as having a reading age of below ten were withdrawn from mainstream English lessons for four hours per week and taught in smaller literacy groups (between seven and ten students in a group). The groups were divided into two sets:

- students with a reading age of between nine and ten who were given additional help in reading accuracy and comprehension and returned to the mainstream classes at Easter
- students with more entrenched difficulties who remained in the literacy groups in Years 8 and 9, when the group size was reduced to four or five students.

The aim of the literacy programme was to improve the students' basic literacy skills. The students were given a spelling, reading, comprehension and writing lesson every week, but followed an individualised programme. Each child was also heard reading in every lesson. The students were paired with older student 'tutors' for three mornings a week. The older' tutors' volunteered to help - they were frequently students who had been in literacy groups themselves when they were younger. The student tutors were encouraged to:

- keep a reading record on their 'students'
- think how they could raise self-esteem in reading
- write a positive comment at the end of the reading
- to encourage the readers to think about how they had improved.

The progress of the students in the literacy groups was monitored rigorously and systematically. The literacy teachers held regular case meetings on individual students and the students were regularly tested, often using standardised tests, for example:

- weekly dictation and spelling tests
- comprehension tests
- end of unit reading tests.

The literacy teachers looked for any signs of progress and the teachers gave verbal feedback on the students' progress to other members of the teaching staff. Students were only allowed to return to mainstream English lessons when their teachers felt that the students were confident about their ability to cope. The school continued to support the students after they left the withdrawal groups by encouraging them to go into support studies in Years 10 and 11, through liaison amongst the teachers and through the help of governors acting as mentors.

The benefits of the intensive literacy programme were clear. They included:

- a considerable rise in the reading ages of students in the literacy group - as much as three years' improvement in two terms
- students who had attended the literacy groups in Year 7 later gaining at least four GCSEs
- the other students benefiting from being in smaller classes because teaching could be more focused
- the students in the literacy groups coping better when they returned to mainstream lessons - their behaviour improved and they were more able to organise their work
- parents of students in the literacy groups working in close liaison with teachers over their child's homework diaries.

The reactions of all students to the intensive literacy groups were positive:

- students in the intensive literacy groups attributed their success to being in small groups and the greater attention they were received from their teachers as a result

- the teachers reported that the students in the literacy groups were either happy to be in the group, but motivated to move back into the mainstream class, or they felt very comfortable in the group and wanted to stay in it because they felt successful in it
- the other students saw the literacy group as just another set.

However, whilst the students saw only benefits in the system, the teachers saw some disadvantages, such as:

- the literacy groups only took students with a reading age of below ten, yet students with reading ages just above the criterion were also a cause for concern, however the literacy teachers planned to run a short course for these students later in the year
- staffing Year 7 was expensive - a great deal of the school's financial resources went into Years 7 and 8, meaning there was less for the rest of the school
  reading books were an expensive resource and finding appropriate reading books and comprehension passages that had an interesting subject matter and simple vocabulary was not easy.

Reference: This case study was featured in the DfEE (now DfES) report, 'Innovative grouping practices in secondary schools,' by Judith Ireson (1999)

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Study

What kinds of ability grouping are there and why do schools and teachers choose them?
The researchers identified and defined six main kinds of grouping practice. They also gave reasons why teachers and schools choose to adopt each of these forms of grouping. We have summarised their definitions and reasons below.

Streaming
Pupils or students are placed in classes on the basis of a test or less formal assessment of their general ability and remain in their streamed class for most subjects. Streaming reduces the spread of ability within the class, making it easier for teachers to match their teaching to pupils' and students' levels of academic ability.

Banding
Students are placed in two, three or four bands on the basis of an assessment of their general ability, where each band contains several classes. Students may be regrouped within the band for some subjects. Banding is less rigid than streaming, especially when there are fewer bands in a school and each band includes several classes.

Setting
Pupils and students are grouped according to their attainment in a particular subject. Setting may be imposed across a whole year group, across timetable halves, within a band or across mixed age classes. Setting also reduces the spread of ability within a class to enable teachers to match their teaching to learners' needs and reduces the negative effects often associated with streaming (such as stigmatising by teachers and other pupils and students) because learners are not in the same groups all the time. Some schools avoid having a bottom set by having a top set and two parallel lower sets.

Within-class grouping
Learners are grouped within the class and may be regrouped for different subjects. This practice is more common in primary schools, but is used in secondary schools too. Withinclass grouping enables the teacher to work with a group of learners together, rather than working with them

individually and gives learners the opportunity to develop their social and communication skills. It makes collaborative work between learners possible which can help reduce the chances of learners becoming labelled. Teachers can restructure groupings regularly, based on their knowledge of pupil and student progress, levels of achievement, behaviour and rates of work.

Vertical (mixed-age) grouping
Pupils in two or more year groups are placed in the same class. This practice is found in primary and special schools. Pupils may be regrouped by setting or within-class grouping, or taught as a mixed ability class. Some small primary schools have to adopt vertical grouping because they have too few pupils of the same age to justify making one class. Other schools adopt vertical grouping for the perceived social benefits of working with classmates who are older or younger.

Mixed ability
No attempt is made to group together pupils or students of similar ability, or learners may be grouped to achieve a range of abilities within the class, or grouped according to other factors, such as friendships. Mixed ability grouping assumes that children have different strengths and weaknesses and develop at different rates. It aims to provide equal opportunity to learn for all learners, who follow the same curriculum and are provided with the same instruction, resources and learning activities.

What did the researchers want to find out about ability grouping?
The researchers wanted to examine the effects of different kinds of ability grouping on learners, focusing on both academic and non-academic outcomes. They identified several research questions to focus their enquiries, covering three main areas:

Learners:

- Does ability grouping within schools and classrooms affect attainment?
- What is the impact of ability grouping on learners' academic self confidence, selfesteem and feelings towards school?
- What are learners' views of ability grouping?

Teachers:

- What are teachers' attitudes to ability grouping?
- What classroom practices do teachers adopt for teaching different forms of ability groups?

Schools:

- What aims and values underpin grouping practices in schools?
- What other factors influence the grouping patterns that are adopted?

The overall aim of the study was to raise teachers' awareness of the impact different forms of ability grouping can have, so they consider how they can best group learners to help improve their academic attainment whilst promoting positive social and personal development. The researchers recognised that there is no simple formula for success - schools will need to assess for themselves what is appropriate for their learners' needs within the context of the resources available to them, such as the size of the school, available space and staff expertise.

What impact did ability grouping have?
Different forms of ability grouping were associated with a number of outcomes including:

- learners' attainment and progress
- learners' self image
- learners' and teachers' views about ability grouping

- teachers' classroom practice.

The study also explored reasons why the schools involved grouped their learners in particular ways.

These outcomes are summarised below and explored in more detail in successive sections of the RfT.

Attainment and progress
Ability grouping did not have a strong impact on overall attainment, however there were the following differential effects:

- students and pupils in higher groups showed greater improvements in attainment than those in lower groups
- students whose attainment was higher on entry to secondary school generally achieved better results in the Key Stage 3 national tests, across the schools
- in mathematics during Key Stage 3, higher attaining students made more progress by being in sets than the lower attaining students made by being in mixed ability classes
- ability grouping was not related to attainment in science and English.

A later study by the researchers provides evidence that teacher expectations have a strong impact on achievement.

Learners' self-image

- pupils and students had a lower self image in schools with high levels of ability grouping than schools with mixed ability classes
- teasing was more common for low ability pupils in the primary school which had streaming and setting, but more common for high ability pupils in the primary school with mixed ability groups.

Learners' and teachers' views about ability grouping

- primary pupils and secondary students were aware of the grouping arrangements in their school
- their preferences were influenced by the current practices in school, the group they were in and their gender
- secondary school students preferred setting, but were aware that students in lower groups could become stigmatised
- teachers' attitudes were related to the type of school they worked in and the subject they taught - teachers in schools with predominantly mixed ability classes had more favourable views about teaching mixed ability classes
- English and humanities were considered the most suitable for mixed ability grouping and mathematics and foreign languages were considered the least suitable.

Teachers' classroom practice

- teachers differentiated work more in mixed ability classrooms than in classes grouped by ability
- teaching methods also differed with high and low ability groups - teachers gave a more stimulating environment, faster pace and more pressure to the higher groups and had lower expectations of the lower groups.

School values and factors underpinning grouping arrangements

- all schools justified their groupings on the grounds of their effectiveness in raising attainment
- schools with a strong commitment to mixed ability grouping believed it demonstrated the equal value of all individuals
- schools in which classes were predominantly set believed that setting helped them to get the maximum from each learner
- grouping patterns were influenced by factors such as, size of intake, size and availability of rooms and staffing
- ability grouping brought with it a number of practical issues, including placing learners accurately into groups, movement of learners between groups and allocation of teachers to groups.

What factors reinforced the effects of setting on students?
Attainment in mathematics was influenced by schools' grouping practices, whereas attainment in science and English was not. In mathematics, students attaining high levels at the end of primary school made greater progress in sets in Key Stage 3, whereas students whose attainment was low at the end of primary school made more progress in mixed ability classes. The researchers suggested several factors which they believed

could have contributed to the differences in students' progress found in mathematics compared with English and science. The factors included:

- tiered assessment
- the cumulative effect of setting
- teaching methods.

Tiered assessment
The study reported that tiered assessment was more prevalent in mathematics than in English and science in that:

- year 9 students were entered for one of four tiers of national tests in mathematics, but only one of two tiered tests for science, and there was only one test in English
- students in years 10 and 11 covered different mathematics subject content in order to prepare them for either foundation or higher tier examinations, which was also the case with science, while there was only a single tier English examination.

The researchers suggested that tiered exams restricted the curriculum offered to students entered for the lower papers, while allowing coverage of more advanced work in the higher tiers.

The cumulative effect of setting
The study highlighted the possibility that the effects of setting in the secondary school may be compounded by the cumulative effect of setting, particularly for mathematics. They suggested that the following factors might be instrumental in this process:

- mathematics was the most likely subject to be taught in primary classes that are set by ability - particularly in years 5 and 6
- in many cases ability groups were relatively fixed, with little movement between groups.

Placing pupils in ability groups in primary school, with little prospect of movement, and then continuing this into secondary school could result in increasing differentiation in students' attainment.

Teaching methods
The study provided evidence that teachers alter their practice according to the method of grouping. They commented that in mixed ability classes learners of all abilities:

- have similar access to the curriculum
- participate in the same activities
- are taught in the same ways.

By comparison, in classes grouped by ability, they suggested that:

- lower attaining classes have less access to the curriculum
- may be taught in more heavily-structured ways, with more repetition, less discussion and greater use of practical activities.

The researchers suggested these differences in teaching methods may have affected students' progress.

Teachers' classroom practice is discussed later in this summary - see section on 'How did teachers' practice change?'

How did ability grouping affect pupils' and students' self esteem and confidence?
Overall, the researchers found students in secondary schools with partial setting (no more than two subjects in Year 7 and four in Year 9) and mixed ability classes had more positive views of themselves in school than students in schools with high levels of setting. In the predominantly mixed ability schools:

- fewer students did not want to go to school

- more students thought that going to school was good and school work was important
- students' relationships with teachers and the school were better as a whole - more students' got on well with all their teachers and saw school as a 'good friend'.

The effect of ability grouping on academic self-confidence differed from one curriculum subject to another. In English, setting raised the self-confidence of lower attaining students and lowered the self-confidence of higher attaining students, but there was no evidence that setting had any effect on students' self-confidence in mathematics and science.

The researchers explained their findings about the effects ability grouping had on students' confidence and self-esteem in a number of ways including:

- school values and ethos may have an influence on how students view themselves - partially set and mixed ability schools may place a greater emphasis on valuing all students than set schools
- different effects in particular subjects may have been due to the nature of assessment in the three subjects - students may be more aware of their performance compared with others in their class in mathematics and science than in English. Answers to questions set in class or for homework are often regarded as being correct or incorrect in mathematics and science, whereas in English, assessment is more likely to be seen in terms of the quality of the response.

What advantages did setting appear to offer?
Clearly, there was some tension between students' and teachers' recognition of the benefits of setting in terms of raising student attainment, and their identification of negative effects, in the sense of divisiveness. We look at the perceived drawbacks of setting in detail on the next page. Here, we look at the benefits of setting seen by students, which largely mirrored the benefits seen by the teachers. They included:

Learners:

- matching work to learners' needs
- gaining status and getting a higher grade in tests through being in a high group
- allowing for differential attainment in different subjects
- minimising behaviour problems.

Teachers:

- matching work to learners' needs
- raising academic standards, particularly for more able pupils and students
- preventing bright pupils and students being inhibited by negative peer pressure

Pupils, students and teachers saw setting as a way of matching work to learners' needs. In practice, however, many students felt that the work they were given was either too easy or too hard. Practitioners may find it helpful to look at how one school developed an innovative system for effectively matching work to students' needs through a four-tiered curriculum where the students decided for themselves the level they wanted to work at.

The following quotes from students and teachers help to illustrate some of the benefits of setting highlighted above.

Students
"Some pupils may be really good in some subjects but pretty bad at others so they need to be in the right group for each subject so they can understand properly most things they do". (Secondary student)

"You don't get held back by people who muck about". (Secondary student)

Teachers
"Setting enables pupils' needs to be catered for more effectively and aids the placement of SEN support". (English teacher in a set school)

"Setting really released the more able children to be able to move on ... it's easy to teach too low here if you're not careful". (Primary school headteacher)

The 'best' set?
Students had varied views as to the 'best' set to be in. Some students thought the top set was best because they valued attaining the highest level of academic achievement, as this student in a school with setting explained: "because you are considered hard-working and brainy".

Other students saw being 'average' as giving protection from teasing and as offering an enjoyable atmosphere which was not too competitive, with work that was neither too hard nor too easy. Another student in a set school said, "Set 3 or 4 is most fun because you can have a laugh in the lessons as well as work ... there is less pressure on you".

What were the perceived drawbacks of setting?
Both students and teachers saw drawbacks to setting, as well as the benefits we have already presented. Schools may find it useful to consider teachers' and learners' views on the negative aspects of setting, when deciding whether or how to group learners by ability:

Learners:

- learners being more aware of differences in their performance levels
- students in both the lowest and highest sets being stigmatised, teased or called names like 'thick', 'dumb', 'boffin' and 'clever clogs', which many students found upsetting
- the pressure of work in the top set and work being too easy in lower sets
- not being in the same set as their friends.

Teachers:

- learners possibly being given unequal opportunities
- stigmatisation of students seen as lower attaining, which teachers saw as having a damaging effect on these students' self-esteem
- more discipline problems and disaffection in the lower sets.

The following quotes from pupils and teachers help to illustrate some of the above points. Teachers may wish to use these views when they are planning for ability grouping to help them to counteract the negative effects.

Pupils
"The ones that weren't so clever, we were in a lower group and that made you feel uncomfortable". (Primary pupil)

"Sometimes when we come in there's something still on the board for maths top set and I just think oh dear I don't know how to do that". (Primary pupil)

"I don't like it when people poke fun ... sometimes they call you thick", "I get teased and called the professor because I'm one of the brainy ones ... it bothers me". (Primary pupils)

Teachers
"The children in the lower streams had had quite a difficult time because they'd had a lot of supply teachers ... The children in the top streams had always had the most experienced teachers and it just wasn't equality of opportunity". (Primary school headteacher)

"The more able pupils are seen as swots and squares and less able pupils are seen as thickies, idiots etc. Stereotyping leads to low self-esteem in lower groupings and an air of arrogance with the able". (R.E. teacher in a set school)

"It often concentrates behaviour problems ... the kids tend to rattle around in these groups of quite challenging youngsters for the whole of their time ... and I think you end up with a real problem about disaffection".

(English teacher in a mixed-ability school)

Movement between sets

Many students were not happy with the set they were in. Most of these students wanted to move to a higher set, but they were aware of the difficulty of changing set. Their reasons for wanting to change set were related to the benefits and drawbacks of setting as they saw them. The following reasons illustrate the views of students, all of whom went to schools with predominantly set classes:

"I have been well ahead of the class and have not changed ... I feel held back".

"You need to be in a high set as maths is very important for getting a job".

"[I want to change set] because I don't like my science teacher".

"[I want to change set] because that's where all my friends are".

Likewise, some teachers were aware of the difficulty of moving students between groups. Teachers expressed concerns about accurately placing students into ability groups and the rigidity of groups. They commented, for example:

"In year 7 pupils are often inaccurately set when entering school". (Science teacher in a set school)

"A child goes into a particular set and is seen as in that position for life". (Primary school mathematics co-ordinator)

"Pupils need to be able to move between sets when necessary ... not just at the end of the year". (Science teacher in a set school).

The authors suggest ways of minimising these negative effects of setting, see the 'How could schools reduce the negative effects of setting?' section later in the RoM.

What did pupils and teachers think about mixed ability classes?

Pupils and students saw the main advantages of mixed ability classes as social inclusion. This included promoting equal opportunities, and allowing brighter children to help slower ones, meaning that lower attaining pupils and students did not feel left out. Pupils and students also thought mixed ability teaching helped avoid stigmatisation of learners in bottom sets, and to a lesser extent, teasing of those in the top sets. The following quotes from pupils and students involved in the study help to illustrate these points:

- social inclusion and equal opportunities - "In the open world you may have to work with people of different ability", (secondary student). "The weaker children will get more opportunities". (Pupil from a mixed-ability primary school)
- helping lower attaining pupils and students - "If you're stuck on something you can ask who's sitting next to you", (primary pupil). Secondary students tended to use more derogatory language in their explanations, "if you're thick the clever people can help you". (Secondary student)
- avoiding stigmatisation - "No one gets the mickey taken out of them and teachers can't make horrid remarks". (Secondary student in a set school)

Teachers saw similar benefits of mixed ability grouping. They felt that mixed ability classes could help:

- improve the self-esteem of all learners - "Co-operative skills are developed between students - more able students consolidate their knowledge by helping less able and less able have positive role models while covering the same ground". (English teacher, mixed ability school)
- overcome disaffection - "Grouping only serves to emphasise the lack of ability of those in the lower ability classes ... I would like to avoid or delay their disaffection to as late as possible". (Mathematics teacher in a mixed ability school)

However, teachers saw disadvantages to mixed ability classes. Some teachers thought that teaching mixed ability classes effectively was a difficult challenge. The main problem suggested by the teachers was differentiating the curriculum. The following quotes from teachers help explain this view:

"I think you've got to be a hell of a good teacher to handle mixed ability teaching and handle all the differentiation that goes with it ... the extension material, the catch up material, group work". (Headteacher, set school)

"Teaching mixed ability groups keeps teachers on their toes. It forces them to be creative and to maintain and develop a better range of teaching styles". (Science teacher set school)

"It becomes more difficult to set appropriate homework for pupils in mixed-ability and to ensure that these are properly marked and discussed in class and corrected". (Mathematics teacher, set school)

Practitioners may like to read a case study that reports on how teachers in one school found they underestimated the number of more able students in their Year 7 classes. Planning questions in advance helped them to ask the able students more probing questions, enabling the teachers to ask differentiated questions in lessons.

What factors influenced pupils' and teachers' views about grouping?
Most of the secondary school students involved in the study (62 per cent) preferred setting, but a large number (24 per cent) preferred mixed ability classes. Pupils' and students' views of ability grouping depended on the type of grouping in their school, their ability and their gender:

- boys, students in mixed ability classes and students in lower sets tended to prefer mixed ability grouping
- girls, students in set schools and students in high sets tended to prefer setting.

Most teachers believed that teaching students in structured ability groups raised academic standards, although they were also aware of the possible negative effects of highly structured ability grouping on learners' self-esteem and that these could be avoided through having mixed ability groups. Like the pupils and students, teachers' attitudes were related to the grouping structures adopted within their own school, but they were also related to the subject they taught.

For example, although most teachers thought that social adjustment was better for all students in mixed ability structures and that setting had a negative effect on students selfesteem in low sets, these views were held more strongly by teachers in mixed ability schools. The researchers were unable to tell from their findings whether teachers were influenced by their environment or whether they chose to work in a school that fitted in with their philosophy of education.

Primary school teachers thought that English and mathematics were the main subjects for which setting was appropriate and mathematics was the subject most often taught in sets. At secondary level, English and humanities teachers generally considered their subjects to be suitable for mixed ability teaching. Mathematics and foreign languages teachers generally considered mixed ability teaching to be most unsuitable for their subjects.

Practitioners may find it helpful to look at a practical example of how a secondary school English teacher organised her students into ability groups within a mixed ability class and gave differentiated tasks to each of the groups.

A range of reasons for believing some subjects were more appropriate for mixed ability teaching than others were given by teachers, including the nature and difficulty of the subject and whether it was possible to have a common starting point with differentiated outcomes. Some teachers said, for example:

"Mathematical concepts and science concepts are very hard to teach to mixed-ability due to the range of knowledge pupils need to know". (Science teacher in a mixedability school)

"In modern foreign languages some content is only suitable for more able students for example, higher grammar". (German teacher in a mixed-ability school)

"It's harder to teach French in a find-it-out-yourself style". (Science teacher in a set school)

"In English, say, access to material should be the same, but the response can be different". (German teacher in a mixed-ability school)

How did teachers' practice change?
Teachers reported that they adopted different practices when they taught mixed ability classes and set classes. The differences between secondary school teachers' classroom practices were related to a number of factors which are described below.

- Differentiation of the curriculum - most teachers in mixed ability classes tended to ask students to work on the same topic at the same time, whereas teachers of set classes tended to cover different topics with students of different ability. Resources were more commonly used to differentiate work in the mixed ability schools than in the schools with more setting
- Teaching methods - learning opportunities for students of different abilities in different types of class varied considerably. With lower attaining students, teachers of set classes provided more opportunities for rehearsal and repetition, more structured and practical work, more structured comprehension question and answer work than teachers of mixed ability classes. They provided fewer opportunities for discussion for lower attaining students
- Teacher expectations - most teachers (of both mixed ability and set classes) expected greater depth of work, more independent thought, greater responsibility for their own written work and a higher level of analytical thinking from more able students. However, more teachers teaching sets (89 per cent) expected a faster rate of work from more able students than teachers in mixed ability classes (69 per cent)
- Homework - twice as many teachers of set classes (40 per cent) than teachers of mixed ability classes (18 per cent) reported setting varied homework for different abilities, such as shorter homework for lower attaining students. Teachers in set classes also reported providing more detailed written feedback on the homework of more able students than mixed ability teachers
- Behaviour management - teachers in both set and mixed ability schools agreed that sometimes they had to spend more time getting lower attaining students to behave, but they did not think they were any stricter with them
- Class organisation - teachers in all types of class sometimes determined the seating arrangements in their classes. Overall, teachers in mixed ability classes adopted more within-class grouping, although this was not usually based on ability

In the primary schools, setting and streaming led to more whole class teaching with a more formal approach adopted for higher ability groups - the more able pupils worked at the higher levels, at a faster pace and with more extension activities. Teachers also reported varying the complexity of the language they used with different sets of pupils. The following quotes from primary teachers help illustrate these points:

"The children sit in rows most of the time ... it's a lot of whole class teaching rather than group teaching because they are all of a similar ability by the nature of the streaming system, so they can all more or less cope with the same input, although I do differentiate at times". (Key stage 1 teacher)

"All groups do practical work, but the lower ability groups tend to do more consolidation work and perhaps less written recording ... The top groups won't be given work sheets or things to fill in. They'd be expected to record it independently". (Primary science co-ordinator)

"I'll say things once and expect them to listen to it, whereas with the lower ability streams, you might say things three or four times and then you have picture cues and then it just goes on". (Primary deputy head)

How did school values affect grouping practices?
For headteachers, educational values played a large part in ability grouping policy and practice. Some headteachers saw mixed ability as a way of demonstrating the equal value of all pupils and students, whilst others saw structured ability grouping as a way of preparing students for a society structured on the basis of ability. Some headteachers took a practical approach and adopted a combination of grouping systems. All headteachers justified their school's grouping practices on the grounds that they were effective at raising attainment. The following quotes from headteachers show the differences in the values held by schools:

"One of the things is that we're trying to get the maximum out of each child ... and I do not believe you can do it in mixed ability". (Set school)

"We can't demonstrate that people are of equal value if we start to separate them out and say you are better

than somebody else or you are worse ... and no matter how schools try and disguise this, the message is very, very clear to youngsters ... they know they are in a bright group, they know they are in a 'thick' group". (Mixed-ability school)

"We actually look at each area of the curriculum and decide what works best for that area and keep it under review ... so we operate an arrangement of mixed ability, wide ability and then setting in certain curriculum areas". (Partially set school)

However, schools felt there were external pressures to adopt setting. Headteachers commented upon, for example:

- parents' preference for setting at secondary level (particularly those of more able pupils and students). Not attracting some parents was seen to have an impact on the school budget and skew the school's intake towards the lower ability range, causing some senior staff to face a moral dilemma between market and educational values
- the DfES recommendation for setting in its 1997 White Paper, 'Excellence in Schools', as a way to raise standards - for example, the report states on page 38 "Unless a school can demonstrate that it is getting better than expected results through a different approach, we make the presumption that setting should be the norm in secondary schools"
- tiered examination papers at GCSE, particularly in mathematics and science.

What bearing did practical issues have on choosing forms of grouping?
In the primary schools, the scope for setting and streaming was limited by the size of the intake. The researchers pointed out that setting is only possible in larger schools with two or more classes in each year group.

In the secondary schools, the researchers found that the timetable and staffing influenced grouping practices. Constructing timetables was seen as particularly difficult by secondary school curriculum managers because many factors had to be taken into account. For example, the number and size of specialist teaching rooms, teachers' experience and qualifications, the accommodation of part-time staff and the co-ordination of the sixth-form timetable with other schools were all factors which had to be considered. Because the impact of these factors tends to be greater in the later stages of the secondary curriculum, mixed ability teaching was more likely to be practised earlier on in the school.

The researchers found that curriculum managers faced some practical difficulties when grouping students according to ability. These problems meant that many students were placed in groups that were too high or low in terms of the academic work covered. The problems associated with ability grouping included:

- placing pupils and students fairly and accurately into groups - schools used a variety of assessments to place pupils and students into groups, but also other factors such as social relationships and behaviour
- a tendency for higher ability groups to be larger than lower groups, although there was some variation between schools - the differently sized groups were justified as a way of providing support for lower attaining pupils and students
- ensuring pupils and students moved groups when they needed to - difficulties such as infrequent assessments, upward movement creating top sets that were too large and ensuring students did not miss a module or cover a module twice.

The following comments from curriculum managers help make some of these practical issues clearer:

"[Movement between sets] doesn't just go down to the relative merits or de-merits of an individual pupil, there has to be space in the next group for a child to move". (Set school)

"If you move a student they're instantly in the wrong place on the carousel and will repeat some work and miss others". (Partially set school)

How can schools reduce the negative effects of setting?
The study highlighted some negative effects to setting. For example, an overemphasis on academic achievement left many pupils and students feeling unvalued with subsequent loss to their self-esteem, confidence and academic attainment. The researchers suggested that setting by ability could run the risk of benefiting top set students at the expense of those in the lower sets. They argued that setting could be an

effective grouping practice if schools try hard to reduce the negative effects. To help minimise the negative effects, the researchers suggest:

- pupils and students should stay in mixed ability classes for the greater part of the time
- ability grouping should only be adopted where teaching and learning depend on learners having shared levels of attainment and prior knowledge
- learners should be assigned to sets on the basis of attainment in the subject and not other factors, such as behaviour
- learners should be frequently assessed followed by movement to different groups where appropriate - 'bridging' groups could be set up to enable learners to cover work needed for moving to a higher group
- within groups, teachers should vary the pace and level of instruction, differentiate work and adopt a range of methods and resources
- high status teachers should teach lower sets and hold high expectations of the pupils and students
- all students should be given the opportunity to take examinations and less academically able students should be given opportunities to excel in other areas
- the school should demonstrate that it values all pupils and students.

The researchers also suggested that implementing alternative, though not mutually exclusive, grouping strategies, could bring benefits. They gave as one example, adopting a modular approach to the curriculum. The authors commented upon some benefits of a modular approach, such as:

- allowing students more choice and control over the way in which they progress through school
- creating a positive ethos - students attend module classes because they want to, their motivation is improved, disaffection and truancy are reduced and students have a more positive self-esteem
- increased social mixing
- widening the range of available examination choices
- helping students to consolidate the work they are unsure of by taking modules which support core modules.

But, the researchers pointed out, the administration of a modularised curriculum is complex. Some of the drawbacks they highlighted are:

- problems with monitoring students' routes through the modules
- modularisation can be expensive in terms of staffing
- students make stereotypical choices.

Practitioners wanting to find out more about how a modular approach can be introduced and the effects it can have, may like to read a case study of a secondary school which introduced a modular curriculum alongside the core curriculum in years 9, 10 and 11.

Another example of an alternative grouping strategy given by the authors was special activity groups, for example to reinforce literacy skills, to boost mathematics performance or to support science coursework. These can be set up to enable some students to gain access to extra curriculum support and can be offered in the lunch hour, after school or timetabled as special activities. Groups set up for special activities can offer more flexibility than structured ability groupings as they can take place over short periods of time, to satisfy particular needs, without disrupting the whole school timetable. However, they can be expensive to run in terms of staffing and there may be difficulties finding suitable learning materials.

Practitioners may like to look at a case study of a school which withdrew Year 7 students for an intensive literacy programme.

How was the research carried out?
The researchers used questionnaires and interviews to gather evidence about the effects of different kinds of ability grouping in both secondary and primary schools.

The secondary school study involved data collection from around 6,000 Year 9 students and 1,500 teachers from 45 secondary schools in London, the South, East Anglia and South Yorkshire. The researchers classified the schools' main approaches to grouping according to three categories:

- setting

- partial setting
- mixed ability grouping.

Each category consisted of 15 schools which were matched by size and the proportion of students eligible for free school meals. They also collected the results of Key Stage 2 (age e 11) and Key Stage 3 (age 14) tests in English, mathematics and science for about 4,500 of the students. The results were used to undertake value-added analyses of the impact of setting on secondary students attainment in English, mathematics and science.

The researchers used questionnaires to find out:

- the secondary students' self-esteem and views of ability grouping
- the teachers' attitudes to ability grouping and their classroom practices
- details of the teachers' own backgrounds, such as their age and qualifications.

The primary school study focused on six schools, including:

- one small school (seventy pupils on roll)
- one large school (720 pupils on roll)
- four medium-sized schools (between 283 and 420 pupils on roll).

Between them, these primary schools used a range of different grouping practices, such as same age and vertically grouped classes, within-class mixed ability grouping, streaming and partial setting (usually for mathematics).

The researchers interviewed the primary aged pupils in mixed-gender pairs. Three pairs of pupils, representing above average, average and below average ability were interviewed from each of the year groups at Key Stage 2. The pupils' perceived ability levels were supplied by the pupils' class teachers for the purposes of the interviews.

The researchers also interviewed primary and secondary school leaders and heads of department about:

- the aims and ethos of the school
- pupils' and students' gender, ethnic origin, attendance and eligibility for free school meals
- practicalities of grouping learners by ability.

Implications of the research - What might practitioners consider when grouping pupils and students?

The research summarised in the RoM highlighted a number of issues that schools may want to think about when considering the ways they group their pupils and students.

The study found evidence that setting did not raise attainment for all learners and led to some pupils and students feeling unvalued, resulting in the lowering of their self-esteem and increased levels of disaffection. Teachers' practice was also implicated: for example, teachers had lower expectations of lower sets in terms of pace and challenge. Schools with classes set by ability may want to consider the following questions.

Could you do more to:

- boost pupils' and students' self confidence - perhaps by demonstrating that skills other than academic attainment are valued, such as effort, sporting prowess, artistic or musical achievement or creativity?
- ensure work is matched to pupils' and students' ability levels, perhaps by organising within-class groupings in set classes to provide pupils and students with differentiated tasks?
- increase the opportunities for providing challenging, but supported work, for example discussion, for lower attaining pupils and students?
- ensure that the same attention is given to monitoring progress across all subject areas and for all groups?
- facilitate movement between sets, based on students' achievements, perhaps by running bridging classes or additional modules in core subjects?

One of the greatest challenges teachers felt they faced with mixed ability classes was differentiating the

curriculum. Differentiating the curriculum is also important in set classes.

School leaders and teachers may find it helpful to consider the following questions:

- do teachers in your school use the same range and variety of teaching strategies with setted groups as they do with mixed ability groups?
- Could teachers work together to ensure that they maintain the highest possible expectations of higher ability pupils and students?
- Would teachers find it helpful to review the amount of detailed feedback they offer to their higher ability pupils or students?
- Are professional development activities in place (such as peer observation and feedback) to enable teachers used to teaching children set by ability, to access the range of strategies used by colleagues teaching mixed ability classes?
- Would it be helpful for staff to use INSET time to share ideas on how to differentiate the curriculum and homework in different subject areas and to gather resources together to help them differentiate the activities they present to their pupils or students?

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 email: research@gtce.org.uk
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Further reading

What else might teachers enjoy reading?
Ireson, J, Hallam, S. and Plewis, I. (2001) Ability grouping in secondary schools: effects on pupils' self concepts. British Journal of Educational Psychology, 71 (2), pp.315-326.

British Educational Research Journal.
Ireson, J. and Hallam, S.,

Ireson, J , Hallam, S., Hack, S., Clark, H. and Plewis, I. (2002) Ability Grouping in English Secondary School: Effects on Attainment in English, Mathematics, and Science. Educational Research and Evaluation, 8(3), pp. 299-318.

Boaler, J. (1997)Experiencing school mathematics: teaching styles, sex and setting. Buckingham: Open University Press.

Hallam, S.,(1997)Grouping pupils by ability: selection, streaming, banding and setting. London: Institute of Education.

Ireson, J. and Hallam, S. (1999) Raising Standards: is ability grouping the answer? Oxford Review of Education 25(3), pp.343-58.

Harlen, W. and Malcolm, H. (1997)Setting and streaming: a research review. Glasgow: Scottish Council for Research in Education.

Boaler, J. (1997) Setting, social class and the survival of the quickest. British Educational Research Journal, 23, pp.575-595.

Lee, J. and Croll, P. (1995) Streaming and subject specialism at key stage 2: a survey in two local authorities. Educational Studies, 21 (2), pp.155-165.

Sukhnanden, L. and Lee, B. (1998) Streaming, setting and grouping by ability: a review of the literature.

Slough: National Foundation for Educational Research.

Hallam, S. and Toutounji, I. (1996) What do we know about the grouping of pupils by ability? London: Institute of Education.
Boaler, J. (1997) When even the winners are losers: evaluating the experiences of 'top set' students. Journal of Curriculum Studies, 29 (2), pp.165-182.

Where can I find out more online?
DfES Standards website
Practitioners may find it helpful to look at digests of research articles about ability grouping available on the DfES Standards website.

For example:
o Boaler, J., Brown, W. and Brown, M. (2000) Students experiences of ability grouping disaffection, polarisation and the construction of failure
o Whitburn, J., (2001) Effective Classroom Organisation in Primary Schools: Mathematics
www.standards.dfee.gov.uk/research/

Literacy Trust
The Literacy Trust web site has an interesting article called 'Streaming and setting - does it make a difference to achievement?' The article, which summarises reports by Ofsted and the NFER, can be found at:
www.literacytrust.org.uk/Research/stream.html

Setting and Streaming
'Ability Groups, Setting and Streaming: What the research says', available from:
www.scre.ac.uk/forum/forum1997/forum97harlen.html
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Appraisal

Robustness

This book reported on the relationship between the effects of ability grouping on both academic and non-academic outcomes for students and underpinned this empirical research with a wide ranging literature review. The researchers identified a number of pertinent research questions to focus their enquiries and covered these areas:

- pupils: Does ability grouping raise attainment? Does ability grouping affect pupils' selfimage? What are pupils' perspectives on ability grouping?
- teachers: What are teachers' attitudes to ability grouping? What classroom practices do teachers adopt for teaching different forms of ability groups?
- schools: How do the espoused aims and values of the school relate to the way pupils are organised into ability groups?

The researchers drew extensively on aspects of two of their own recent empirical studies one focused on secondary schools and another on primary schools. The secondary study involved 45 secondary schools in the South, East Anglia and South Yorkshire. The evidence base was large with 6,000 secondary pupils completing questionnaires designed to measure their verbal and mathematical abilities, self-esteem and views of ability grouping. The researchers matched data on attainment at 11 and 14 for a subset of about 4,500 pupils. Data were collected through a questionnaire survey of 1,500 secondary school teachers about their attitudes to ability grouping, classroom practices plus details of their backgrounds such as their age and qualifications. The modest primary study focused on six schools (the location of the schools is not provided) including one small, one large and four of medium size. Primary pupils from each year group were interviewed. Primary teachers were interviewed about their attitudes and classroom practices. Information

was collected from primary and secondary school leaders about the aims and ethos of the school and further information about the practicalities of ability grouping was obtained from subject leaders.

Relevance
This study is relevant to school leaders, subject leaders and teachers in secondary and primary schools interested in the relationship between pupils' attainment and self esteem, and ability grouping. The well-chosen samples, selected to provide evidence of the experiences of pupils and teachers in secondary schools, are likely to enable practitioners to make provisional links with their own situations. The primary school sample while much smaller still provides enough references for practitioners to relate to the findings. Data analysis is valid and along with extracts from teachers' and pupils' responses is used well to illustrate the points made.

Applicability
There was a clear focus in this investigation on how types of ability grouping affect pupils' attainment and self-esteem. While the findings do not produce simple answers the study is likely to help school leaders and teachers to understand better the relationship between ability grouping, attainment, pupils' self perceptions and approaches to teaching. School leaders and teachers could usefully consider the main findings, which included:

- attainment
- pupils' views and self-esteem
- teachers' views and attitudes
- educational values underpinning grouping arrangements.

Writing
This book is likely to engage the interest of a good range of teachers. The findings, while complex, are clearly identified and presented. Technical data and statistical analysis are explained well.
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CPD leader resources: Mystery game

Are you concerned about improving attainment in mathematics for all students? How can you support the needs of the most and least able in this subject? Is setting by ability the answer? Or does setting put certain groups at an unfair disadvantage?

If you want to find out more about the effects of setting on attainment in mathematics and other core subjects, these activities, based on important research into student grouping, can help you begin to engage with the issues.

Choosing whether to use the mystery game
The problem that needs to be solved in this particular mystery game is based in a secondary school. It will take about 45 minutes to run (or up to an hour if you have several groups, or wish to allow extra time for discussion). In a full CPD session, you will wish to add a warm up activity and to spend a while considering how you can take the learning further after playing and debriefing the mystery game. Facilitators will need to familiarise themselves with the mystery game before playing it with colleagues.

What is a mystery game?

A mystery game is a thinking skills activity. It gets people to deal with pieces of information from a variety of perspectives whilst they try to answer an overarching question. The pieces of information are placed on Statement Cards, some of which are relevant to answering the mystery question and some of which are not. Participants have to consider all the statements, decide which ones are relevant and use this information to construct an answer to the question. They arrange the cards physically on the table to explain their solution,

showing how different statements are linked to one another.

Why use a mystery game?

A mystery game generates a good level of discussion in several ways. Using statements based on problems to be resolved in a fictitious school helps users to focus on a particular context and to avoid becoming too anecdotal. Some statements are designed to be interpreted in different ways and this ambiguity helps to extend discussion of the issues. The small group and problem solving format also secure the active engagement of participants and this increases motivation. The use of small pieces of data on movable cards allows groups to physically manipulate the information as they work their way towards an answer. This in turn allows facilitators to observe group progress from a distance.

The second part of the mystery game is important. This is when groups of players explain their reasons for structuring their answer in a particular way. At this stage, players discuss the various solutions and also consider additional questions. This plenary discussion and consideration of additional questions provides facilitators with an opportunity to draw out important learning points.

Purpose of this mystery
This mystery has two aims:

- to produce a wide-ranging discussion about issues relating to different methods of grouping and to teaching and learning in general; and
- to help participants formulate their own probing questions which will inspire and help them to explore the findings of the RoM digest more deeply.

Running the activity
The facilitator's notes include detailed instructions on how to run the activity. There is also a **treasure hunt** activity (see PDF attached) that can be used together with the mystery game.
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