

# Standards, Inequality & Ability Grouping in Schools

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There is much debate among teachers and policy makers in Scotland and elsewhere about the merits of mixed-ability teaching compared with setting or streaming students into classes according to their achievement levels. This *Briefing* draws on research in the US, Britain and Israel to consider the impact of the different systems of classroom organisation on equal opportunities in education and how they affect students' learning and achievement.

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- ▶ **Because** of conditions outside school, when educators sort students on the basis of test scores they also segregate them by race, ethnicity, and social class.
- ▶ **When** students are divided for instruction by ability, either through setting or streaming, their achievement levels tend to become more and more unequal over time.
- ▶ **Unequal** classroom conditions in high versus low level classes are major reasons behind the increasing inequality in students' achievement levels: the more experienced, qualified teachers are commonly assigned to higher sets where more challenging material is used and where there is greater emphasis on discussion and interaction with students.
- ▶ **Mixed-ability** teaching produces less inequality, but high-achieving students tend not to progress as far as when they are assigned to high sets or streams unless schools ensure that the highest performance standards are asked of them.
- ▶ **Division** of students by ability exacerbates inequality more when it is more rigid and far-reaching (as in streaming) and less when it is more flexible and linked to subject matter (as in setting).
- ▶ **The** effect of organising classes by ability grouping varies depending on how it is implemented; some uses of ability grouping are less detrimental to equal learning opportunities than are others.

## Introduction

The controversy over arranging students in classes by achievement levels, called setting or streaming in Scotland and “tracking” or “ability grouping” in the United States, is over 100 years old. Just in the past decade, the US and Scotland seem to be moving in opposite directions in seeking to resolve the debate. In Scotland, many schools have re-introduced setting and streaming after years of mixed-ability teaching, particularly in the first two years of secondary school (S1 and S2). In adopting this reform, they have followed the official guidance of HM Inspectorate (SOEID, 1996). At the same time, many American middle schools (where the equivalents of S1 and S2 are found), which have had a long-standing practice of tracking, have engaged in “de-tracking” in an effort to reduce or eliminate such divisions (Loveless, 1999). Why are the US and Scotland moving in opposite directions on classroom organisations? This *Briefing* considers the evidence about the different systems of organisation.<sup>1</sup>

## Problems of Setting and Streaming

In principle, setting and streaming seem like efficient ways to organise students for instruction. By grouping students of similar achievement levels together, teachers can effectively target instruction to students' needs. What is problematic about this arrangement?

There are two main problems associated with setting and streaming. First, when educators divide students by achievement levels, they also tend to segregate them by race, ethnicity, and social class. Because of inequality in the wider society, test scores tend to be stratified along these dimensions, so classes restricted to high-achieving students tend to have a higher number of majority-race and privileged social class students relative to their proportion in the overall student population of the school. Correspondingly, minority and disadvantaged students tend to be over-represented in low-level classes (Gamoran, 2000).

The second problem with streaming and setting is that the achievement levels of students in different classes - unequal to begin with - become even more and more unequal over time. These growing inequalities do not merely reflect students' different starting points, they also relate to students' different experiences in high- and low-level classes. This finding has emerged from many studies, mostly in the US but also in the UK and elsewhere. One of the most important sources of evidence for the impact of setting on achievement inequality is the National Child Development Survey (NCDS), which was collected on

a 1958 British cohort over 20 years. Using NCDS data from England and Wales, Kerckhoff (1986) showed convincingly that students assigned to selective schools and classes increased their achievement more than similar students who enrolled in comprehensive schools and mixed-ability classes, while students in low-level schools and classes fell further and further behind. Although *average* levels of achievement growth were similar in schools using setting and other schools using mixed-ability teaching, this was because the advantages of high-achievers were offset by losses among low-achievers in the schools with setting (see Harlen and Malcom, 1997; Gamoran, 2000 for more studies of the effects of grouping on achievement).

Studies involving random assignment of students to ability-grouped or mixed-ability classes are more equivocal, with some showing higher achievement under setting, some showing lower achievement, and some showing no differences (Slavin, 1987). The problem with these experiments is that they lack evidence on how setting was implemented. Were the best teachers assigned to the higher (or lower) sets? Did teachers vary instruction across sets, as commonly occurs in the real world, or did they provide the same instruction across sets? Without this information, it is difficult to interpret the experimental results.

## Why do Setting and Streaming Tend to Exacerbate Inequalities in Achievement ?

A major reason is that classroom instructional conditions tend to differ across sets and streams. Students in higher streams take more academic courses, and particularly more advanced academic courses. More experienced, qualified, and better-prepared teachers are commonly assigned to higher sets, where they cover more challenging material at a faster pace. Low-level classes are more often afflicted with interruptions and student misbehaviour, while teachers emphasise seatwork instead of oral interaction with students (Gamoran, 2000). Studies of English classes in US secondary-schools, for example, revealed that much of the growing inequality of student performance between ability groups (sets) was related to two sorts of classroom differences: more misbehaviour that had negative consequences for achievement in low-level classes; and more discussion and open-ended questions about academic content, with positive consequences in high-level classes (Gamoran *et al.*, 1995).

## Variations in the Effects of Setting on Achievement

The mixed evidence from the experimental studies about the impact of ability grouping suggests that the effects may depend on how the practice is implemented. Reviewing the evidence at the primary level, Slavin (1987) concluded that the problem of

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<sup>1</sup> Streaming refers to where students are divided by ability for the whole school day; setting is where students are divided on a subject-by-subject basis.

achievement inequality was less likely to emerge when assignment to classes (or groups within classes) was subject-specific, based on criteria relevant to that subject, and when instruction was targeted to students' needs. These criteria are compatible with setting and within-class grouping, but not with streaming.

At the secondary level, the evidence suggests that setting and streaming rarely foster equal learning opportunities, but some uses of these practices are less harmful to equal opportunity than others. In Scotland, the implementation of Standard grade, while still divided into general, credit and foundation levels, resulted in less inequality of attainment than the Ordinary grade system that it replaced (Gamoran, 1996). In Israel, differentiated academic programs fostered higher scores on the matriculation examination than undifferentiated programs, presumably because low-achieving students had incentives to perform well at a level that was manageable for them (Ayalon and Gamoran, 2000). In the US, Catholic schools do not exacerbate inequality to the same degree as secular government-funded schools, apparently because they require a more rigorous academic program in lower-level sets and streams (Gamoran, 1992). Further research to explore this finding found two Catholic schools in which students in lower sets made as much progress as those in higher sets. This pattern was attributed to three features: the same teachers taught both high- and low-level classes; teachers held high expectations for low-achieving students, manifested in a refusal to relinquish or dilute the academic curriculum; and teachers made extra efforts to foster oral discourse with low-achieving students (Gamoran, 1993).

### Problems of Mixed-Ability Grouping

Although setting and streaming are commonly associated with social segregation and achievement inequality, the absence of these practices ("detracking" or mixed-ability grouping) has problems of its own. Gamoran and Weinstein (1998) studied 24 US schools engaged in substantial "restructuring" which dramatically changed the roles, relationships and practices in the schools. Of eight high schools, three had eliminated ability grouping entirely. In two of these cases, teachers held low expectations for students and the academic programs were weak. For example, in one urban high school:

*Teachers geared pedagogy and curriculum content for the lower-achieving students in mixed-ability classes. Almost none of the observed classes exhibited more than a minimal amount of thoughtfulness and depth... Two teachers acknowledged they had lowered their standards for heterogeneous classes, and one said he had given up trying to cover all the intended material.* (Gamoran and Weinstein, 1998, p.393)

In the third high school, teachers used a combination of high expectations and extraordinary resources that supported small classes and a tutoring program to sustain an effective program of mixed-ability teaching. To graduate from this school, located in an urban area with a substantial disadvantaged population, students had to prepare a portfolio of accomplishments in eight subject areas. Although all students had the same opportunities for learning, teachers held students with the greatest capabilities to the highest performance standards.

### Conclusions

The research evidence points to a number of conclusions about setting and streaming as systems of classroom organisation.

- They are problematic practices because they are associated with social segregation. Whatever their effects on achievement, this issue must be taken into account in deciding whether and how to implement setting and streaming systems.
- Setting and streaming are commonly linked with expanding inequality of student achievement. As time goes by, high-level students gain more and more, while low-level students fall further and further behind. Assignment practices play a causal role in this process, as higher-level classes typically constitute better learning environments.
- Setting is less problematic than streaming. Problems are likely to be most severe under streaming, where students are assigned on the basis of a single criterion for the entire school day, compared with setting, which is subject-specific. Because students need not be enrolled in the same sets for all subjects, setting is a less powerful segregator than streaming. Moreover, because it is subject-specific, it offers the possibility of instruction targeted to student needs in low-level classes.
- At the primary level, setting and within-class grouping may be effective when assignment and instruction are closely related to student capacities.
- Streaming at the secondary level may benefit high achievers, but these benefits invariably come at the expense of losses for low achievers. Setting is also associated with increased inequality, but inequality has been mitigated in some cases.
- Mixed-ability grouping also has problems, particularly that the academic curriculum may be diluted in an effort to teach a wide range of students. Schools that use mixed-ability teaching must be aware of the need to maintain a high level of challenge for high-achievers. By the same token, schools that use setting must ensure a higher quality of instruction than commonly occurs in low sets, if they wish to mitigate the problem of unequal opportunity.

The US and Scotland are moving in opposite directions on setting and streaming but the reason for this divergence is not found in cultural idiosyncrasies of the two societies. Rather, the different directions reflect the fact that the problems associated with dividing students have no single best solution. Educators in each system, recognising the problems inherent in their own approach, embrace the opposite, apparently unaware of the problems they will inevitably encounter. Rather than seeking an optimal solution, educators will be best off if they recognise the strengths and weaknesses of each approach and implement the one that best suits their unique context, taking advantage of the strengths and endeavouring to mitigate the weaknesses of whichever system they select.

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## Further information

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### About this Briefing

This *Briefing* is based on a public lecture given by Adam Gamoran at Edinburgh University; the full text is available on the CES website. Adam Gamoran is Professor of Sociology and Educational Policy Studies at the University of Wisconsin-Madison with research interests in stratification and resource allocation in school systems. He is an Associate of CES where he has studied curriculum change and educational inequality in Scotland.

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