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# **Class, ‘ability’ groups and mathematics in English secondary schools: A review**

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*In an age where neoliberalism reigns, the predominance of ‘ability’ grouping as an organizational strategy in mathematics classrooms in England is now virtually unchallenged: it is seen as natural and ‘common-sense’ by the population at large and by the vast majority of mathematics teachers. This is despite the large volume of research which shows it has no effect on attainment overall but has a deleterious effect on the well-being of many children. ‘Ability’ grouping is a social justice issue as it always disadvantages someone. In this review, I examine how it continues to disadvantage working-class children in England.*

*Keywords: Ability, ability grouping, all-attainment.*

## **Preamble: Class, schooling and the legitimization of inequality in a neoliberal age**

Why does education, “increasingly positioned as the new panacea for the masses”, lead to the majority of working-class students feeling “a sense of educational worthlessness?” (Reay, 2006, pp. 296–297). To answer this question we must first understand that since the mid-seventies, particularly in the UK and the USA, neoliberalism has been the dominant governmental discourse. Neoliberalism is a political ideology that seeks to reduce and limit the role of government in all areas including in the public sector, believing that markets result in greater efficiency and “inequality is a result of individuals’ inadequacy” (Hursh, 2005, p. 4). Neoliberalism has appropriated the desire to want to “get on” translating it into “aspiration”, a device that disguises the social and economic barriers that hinder the working class from doing so, shifting the responsibility for “people’s opportunity to succeed or fail from the state onto individuals” while replacing “political concepts such as class, democracy, exploitation, solidarity, justice, dignity and rights” (Tyler & Bennett, 2015, p. 6). Thus students, lacking an alternative, come to accept as natural the unequal way that society is structured. This process, termed the legitimization of inequality by Bowles and Gintis (1976), leads those at both the top and bottom of society “to see themselves as largely responsible for their own places in it”. Reay (2006) sees class as

everywhere and nowhere, denied yet continually enacted [...] while the privileged, for the most part, continue to [...] ignore its relevance to lived experience. (p. 290)

The education system currently works in favour of the middle classes and is underpinned by their values (Zevenbergen, 2001). Reay (2006) says working-class students are frequently positioned as inadequate learners with inadequate cultural backgrounds: she says ‘ability’ grouping is used to “fix failure in the working classes while simultaneously fixing them in devalued educational spaces”, making some students “feel stupid” (p. 298). It is ‘ability’ grouping which is the focus of this paper.

## **Introduction**

In England, only around the top 60% (Ofsted, 2012) achieve a ‘pass’ grade at age 16. Working-class students are significantly over-represented in the other 40% (Gillborn & Youdell, 2000). Further, only 24% of white working-class boys on free school meals gain five good GCSEs (the public

examination at 16) including mathematics (Wigmore, 2016). This matters not least because, intentionally or otherwise, mathematics is used as a filter to many vocations and academic institutions (e.g., Stinson, 2004). One major barrier to achievement is putting students into ‘ability’ groups.

The aim of the study on which this paper is based was to explore the available research on ‘ability’ grouping and included reports on overall attainment and personal and social outcomes. In the main, the study focussed on research and reviews of research undertaken since the start of the eighties although important research studies from earlier periods were also included. The review included both quantitative and qualitative studies. The review was initially conducted using Google Scholar and the British Education Index database. The references of relevant articles were then scrutinised systematically for further pertinent references which were similarly scrutinised and followed up. The arguments and conclusions presented in this paper draw on the whole study; limitations of space mean that only a minority of sources can be cited.

Research on ‘ability’ grouping indicates that it has little, if any effect, on attainment overall but has long term detrimental effects in terms of personal and social outcomes (Nunes, Bryant, Sylva, & Barros, 2009; Boaler, 2005). Moreover, the social effects of ‘ability’ grouping “exact a social price, as ability levels largely overlap with socioeconomic differences” (Cahan, Linchevski, Ygra, & Danzinger, 1996, p. 30): It is inequitable and needs to be challenged. As Slavin (1990) argues, ‘ability’ grouping can be seen as an affront to basic ideas of democracy. ‘Ability’ grouping is a social justice issue because it always disadvantages somebody; and in England, amongst others, it disadvantages working-class children: this is what I explore here in the context of secondary mathematics.

### **Class and ‘ability’**

On arrival in secondary school, many middle-class children are already academically more advanced than working-class children as their education-conscious middle-class parents will have endeavoured to ensure their children have secured a place in the best performing junior schools (Lacey, 1970, p. 35). In addition, teachers' beliefs frequently lead to lower expectations of working-class children (Zevenbergen, 2003). Working-class students lack the social and cultural capital that the middle classes possess. This difference in capital legitimates the failure of working-class students with middle-class students' success being seen as the result of hard work or natural ‘ability’ rather than class-based inequalities (Bourdieu, 1992). Hence many working-class children start school at a disadvantage compared to many of their middle-class peers as they are less well equipped with the tools necessary to do well in school. One pattern of response to this is that of rebelling against a system that predisposes them to do badly, committing themselves to behaviour patterns which means that their work will stay poor (Lacey, 1970, p. 58).

One important effect of grouping by ‘ability’ is that middle-class children have minimal contact with those working-class children who are less well behaved (Ireson, Clark, and Hallam, 2002). Students who lack the social knowledge for what is seen to be appropriate behaviour (Zevenbergen, 2003) by teachers will tend to populate the lowest sets. Those who do succeed in making it into the higher ‘ability’ groups soon discover that to succeed in school they must conform to the accepted middle-class behaviour norms; failure to do so causes a descent into the lower attaining groups. Thus there is a self-correcting mechanism for dealing with children who do not conform.

Underlying the issue of ‘ability’ are issues of power and culture and hence whose ways of knowing are dominant. ‘Ability’ grouping is not a neutral disembodied organisational practice. ‘Common sense’ conceptions of ‘ability’ and intelligence are at the heart of schooling and the ‘ability’ discourse is part of an ideological battle defining children with lower socio-economic status (SES) as being expendable (Oakes, Wells, Jones, & Datnow, 1997): Attainment grouping serves purposes in schools other than that of teaching and learning. Schooling is designed to reproduce the current social, political and economic systems rather than to provide a meritocratic route to success in adult life (Oakes, 2005). Further the performativity regimes (Ball, 2003) imposed on schooling have created a climate whereby failing to conform to prevailing discourses carries huge risks to schools and to individual teachers. ‘Ability’ grouping measured by some form of assessment is seen as risk free and, in mathematics, is virtually unquestioned (Hallam and Ireson, 2003).

Contemporary English society assumes that middle-class values are superior to working-class values and hence the working classes need to ‘aspire’ to join the middle classes (Jones, 2011). The values that working-class children bring to school are neither recognised nor valued by schools while the abilities they bring to school are ignored at best and indeed are thought to be detrimental to a good education (Delpit, 2006). This feeds into the informal judgements about intellectual ‘worth’ noted above. In addition, in general, working-class students will not understand the mechanisms required to succeed in the curriculum as they will not have the cultural capital to ‘play the game’ that is involved in the learning of mathematics (Bourdieu & Passeron, 1990).

### **Student attainment and the idea of ‘ability’**

‘Ability’ is currently used as a proxy for intelligence (Wilkinson & Penney, 2014) and ideas that would normally be discarded are taken as ‘common sense’ when the discourse is about ‘ability’ rather than intelligence. Viewing ‘ability’ as innate has been a long established presumption, held to be true by the general population and by many teachers (Marks, 2016). This ‘common sense’ view leads directly to putting children in groups of the same predetermined ‘ability’ in order to teach them effectively (Francis et al., 2016). For many children this approach is damaging academically and socially; it is damaging nationally and is contrary to the stated aim of raising overall attainment.

Dweck (2000) has challenged this view of fixed ability, showing that a belief in growth mindsets, that progress is in large part down to effort and is not restricted to those with ‘ability’, enables students to make more progress and achieve higher. Grouping students heterogeneously is supported by a very large body of research which indicates that it improves educational outcomes (e.g., OECD, 2013). Despite this the current climate is unfavourable to all-attainment teaching. Indeed, it is often viewed as inimical to good teaching. The pressure on schools to conform to this view coupled with the tendency of teachers to replicate how they have been taught ensures that ‘ability’ grouping is almost universal in mathematics classrooms in England in contrast to much of the rest of the world.

‘Ability’ grouping sends a clear message that only some can do mathematics and that this is due to some type of ‘natural ability’ (Marks, 2016), a message some children (currently about a third) receive as early as age 4. Early research reviews (e.g., Sukhnandan & Lee, 1998) found that studies on ‘ability’ grouping produced few conclusive or consistent findings but recent research (OECD, 2013) indicates that where students are highly stratified, as in the case of setting, there is a wider range of achievement than when they are taught in heterogeneous groups. Hoffer (1992) reports that “the

conditions under which [‘ability’] grouping benefits all students (or at least helps some and does not hurt any) do not generally exist” (p. 223).

Comparisons between countries may be misleading and in analysing the effects of ‘ability’ grouping it can be difficult to separate out factors. Nevertheless, research carried out in England and in the USA does show significant similarities: in the USA students in high tracks gain more than students in lower tracks (Slavin, 1990) while, in England, there is a consistent tendency for children of all ‘ability’ levels who are placed in lower sets to attain less than if they had been in heterogeneous groups (Bartholomew, 2001). A consensus is emerging that, whilst not necessarily raising the level of outcome for higher attainers, all-attainment teaching does not significantly suppress it (Francis et al., 2016).

### **Allocation of children to ‘ability’ groups**

Early grouping by ‘ability’ has long-term implications for children’s educational opportunities (Boaler, 2005). Once a child is placed in a particular group it is very difficult to change because of differences in curriculum content and the pace of teaching (Wilkinson & Penney, 2014). The allocation of children to ‘ability’ groups is claimed to be objective with children being allocated on the basis of their prior performance; the process is portrayed as highly refined with children accurately allocated. However, in English secondary schools, although perceived ‘ability’ is found to be the main predictor of set, it is a relatively poor one. Schools have multiple reasons for the allocations, many informal and based on insubstantial evidence. Children with higher SES and/or ambitious middle-class parents are more likely to be assigned to higher sets. Children seen as disruptive or poorly behaved, the perception of which is linked to class (Bartholomew, 2001), are more likely to be in bottom sets (Muijs & Dunne, 2010). Boaler, Wiliam, and Brown (2000) found that working-class students in the UK tended to be placed in a lower group than would be expected on the basis of their attainment alone as a result of the school’s desire not to alienate the most powerful (and highly valued) constituencies of parents (p. 130), a pattern also found in schools in the USA (Oakes, 2005).

### **‘Ability’: Beliefs and practices of teachers**

In Britain, many teachers are philosophically opposed to mixed ‘ability’ and even where children are in mixed ‘ability’ classes the teachers practice in-class grouping (Marks, 2016). Oakes (2005) suggests that people unquestioningly continue the practice of ‘ability’ grouping because it is seen as being part of the ‘natural’ order of schools (p. 191). Lacey (1970) reports that the teachers gave the following reasons as justification for the introduction of streaming in *Hightown grammar*: It would make the teaching

more efficient and [...] facilitate the learning process for all [...] [working in] the best interests of the individual pupil, even when relegating him to the bottom stream. [If he remained in the same group he would] either hold them up [higher attaining pupils] or [...] become demoralised, and fall further behind. [...] He would be able to proceed at a more suitable pace [...]. (pp. 74–75)

Oakes (2005) evidences that the assumptions on which ‘ability’ grouping is based are unjustified, while teachers’ perception that “teaching is easier when students are grouped homogeneously” may be because this is the classroom organisation they are used to. If they embraced the use of different organisational structures where the students cooperate they might similarly find teaching is easier in heterogeneous classes. Moreover, she says “these [classroom] differences are institutionally created

and perpetuated by tracking” (p. 194). Most of the benefits of ‘ability’ grouping are benefits for teachers and schools whereas most of the disadvantages concern the negative effect on students (Hallam and Ireson, 2003). Teachers treat children differently depending on their conception of their ‘ability’ (Bartholomew, 2001). Low attainers and high attainers who produce work of a similar standard find their work viewed quite differently (Marks, 2016). Higher attainers are constructed as well motivated, hardworking, well behaved and capable of independent working and thought whereas low attainers are constructed as poorly motivated, badly behaved (Wilkinson & Penney, 2013), incapable of independent working and thought and in need of repetitive tasks which require lots of practice (Watson & De Geest, 2005). In addition to this, there is a tendency for teachers assigned to high ‘ability’ groups to be both more competent and more motivated.

Hence the set a pupil is in can be crucial to their attainment. Students in top sets are expected to work faster covering work in more depth while pupils in low sets have a reduced curriculum where there is less discussion, more repetition and more structured work including merely copying off the board (e.g., Boaler et al., 2000) with lower attainers being deprived of role models of more successful learners (Hornby & Witte, 2014). Lower attainers find it more difficult to acquire ‘basic’ knowledge in sets compared to non-setted groups (Fuligni, Eccles, & Barber, 1995) while high level content may only be made available to high attainers (Cahan et al., 1996). Lower expectations of low attainers are communicated through a number of mechanisms. They are given easier work which they frequently repeat and the work they are given is broken down in smaller steps so they cannot make for themselves the connections needed to understand the mathematics they are doing. Their teachers talk *about* them differently and talk *to* them differently. They are described as being incapable of concentrating and teachers adopt a more authoritarian mode of talking to them (Watson & De Geest, 2005). Moreover, behaviour is constructed very differently in high attaining and low attaining groups. Bartholomew (2001) and Marks (2016), for example, report that teachers’ focus on *learning* in high attaining groups while in low attaining groups they focus on *behaviour*.

### **‘Ability’ grouping: Concluding remarks**

Four main conclusions emerge from the literature review. Summing up:

1. *‘Ability’ grouping remains a class issue* as working-class students are disproportionately placed in lower sets (Bartholomew, 2001) becoming demotivated and underachieving as a result. The preponderance of middle-class children in the upper sets show that grouping by ‘ability’ favours the middle class. In a socially just world all students would have *the opportunity to attain equally*, unrestrained by external factors such as perceived ‘ability’. It is the case that when children from the working class have the same opportunities as middle-class children they can attain as highly (Boaler, 2005) though lower attaining students may need additional support so they can reach the higher expectations (Rubin & Nogura, 2004).
2. *The beliefs and practices of teachers* may be key to improving the outcomes for working-class students. They need training in order to teach all-attainment classes effectively. Teachers who hold conventional conceptions of ‘ability’ and intelligence may be the greatest obstacles to reform as they actively resist changes to the curriculum. Their beliefs can lead to resistance to change (Hynds, 2010) and they may enlist *the support of parents who are part of the dominant class* and who fear change will disadvantage their children (Oakes et al., 1997).

3. If ‘ability’ grouping worked as its supporters claim it works, then social class would be of no import, a child’s behaviour would be irrelevant and each child would be able to develop appropriately. *Allocation to ‘ability’ groups* would be commensurate with students’ current attainment and they would be constantly monitored and re-assigned to the correct group throughout their school careers with a mix of working-class and middle-class children reflecting the profile of the intake. However, as well as middle-class children having more economic capital they also have more cultural and social capital than working-class children. Middle-class children’s *understanding of the rules of the game* that is school is much more profound and they can use the rules much better to their advantage.
4. ‘Common sense’ conceptions of ‘ability’ are at the heart of schooling. A technicist approach to reform will not work as it assumes resistance to changing ‘ability’ grouping is rational. ‘Ability’ grouping is an ideological battlefield. Teachers in the main are, unsurprisingly, convinced by the powerful dominant discourse of individualisation accompanied by a natural ordering produced by ‘ability’. Alongside, powerful high-SES parents use issues of intelligence, ‘ability’ and merit to exercise power and control enabling them to secure high ‘ability’ groups for their often less than qualified children. A wholesale restructuring of school expectations and culture is required (Oakes et al., 1997) in order to succeed in providing a more just experience for working-class students in secondary mathematics classes in England.

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