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Factors deterring schools from mixed attainment teaching practice

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Factors deterring schools from mixed attainment teaching practice

Abstract

Mixed-attainment teaching has strong support from research and yet English schools are far more likely to group and teach students in ‘ability’ sets or streams. Although research has considered some of the specific benefits of mixed-attainment grouping, there has been little attention to the reasons schools avoid this practice in favour of setting. This article explores data from the pilot and recruitment phases of a large-scale study into attainment grouping practices and seeks to identify some of the reasons for the low rate of mixed attainment grouping in English secondary schools. We report on our struggle to recruit schools to an intervention in mixed attainment practice, and explore the different explanations provided by teachers as to why mixed attainment practice is seen as difficult or problematic. The difficulties are characterised as a vicious circle where schools are deterred by a paucity of exemplars and resources, which in turn keeps to a minimum the ready availability of exemplars and resources that might encourage schools to adopt the practices. The educational climate is characterised as fearful, risk-averse and time-poor, further exacerbating schools’ reluctance. Finally, tentative suggestions are made as to strategies to support schools in taking up mixed attainment practices.

Key words: mixed attainment grouping, English secondary schools, ability grouping, fear, setting

Introduction

Grouping by ‘ability’ and mixed attainment teaching

A range of grouping practices is represented in English secondary schools. The majority of schools use some kind of ‘ability’ based strategy, where students are grouped according to

one or more measures of prior attainment (Ireson & Hallam 2001). Although this approach is commonly referred to as ‘ability grouping’, we contend that the term confuses current (or recent) educational attainment with a notion of innate potential academic ‘ability’. Therefore we prefer to use the term ‘attainment grouping’ and we refer to ‘ability’ in inverted commas.

A number of different attainment grouping practices are described in the literature including streaming, setting, banding and within-class grouping (Dracup 2014). Streaming refers to the practice of separating students according to a general notion of ‘ability’ across all (or a majority of) subjects so that students are taught in the same streamed groups for most lessons (Hodgen 2011). Setting is more flexible and students are grouped according to ‘ability’ in individual subjects. In the US literature, the term ‘tracking’ is used to refer to both streaming and setting (Gamoran & Nystrand 1994). In England, within-class ‘ability’ grouping is most commonly practised in primary schools, where children are seated at ‘ability tables’ within a class containing a broad range of prior attainment (Marks 2013). In contrast to all of these, mixed attainment grouping sets out deliberately to establish teaching groups with a broad range of prior attainment.

Proponents of attainment grouping argue that separating students into ‘ability’ groups enables teachers to stretch the most ‘able’ and support students who are struggling (DfES 2005).

Resources and teaching strategies, they argue, can be tailored to the students in the group and so progress and attainment can be maximised (Cahan, Linchevski, Ygra, & Danziger 1996; Dar & Resh 1994; Hallinan & Sorensen 1987).

However, it is well-established that attainment-based grouping has little if any overall benefit in terms of student outcomes (Burriss & Welner 2005; Higgins et al. 2015; Ireson, Hallam, & Hurley 2005; Nomi 2009; Slavin 1990). Indeed, it has been demonstrated multiple times that while small achievement gains may be made by higher attaining students, the impact on

students in lower attaining groups is negative (Boaler & Wiliam 2001; Burris & Welner 2005; Chambers 2009; Higgins et al. 2015; Wiliam & Bartholomew 2004). This extends not just to academic attainment but also to the student experience, with students in lower-attaining sets reporting that they are unhappy with set placement (Boaler, Wiliam, & Brown 2000; Zevenbergen 2005) and developing poor self-confidence (Bartholomew 2000). Even some top set students have reported negative experiences such as feeling under pressure and lacking confidence (Boaler et al. 2000). Boaler (1997) has argued that some students in top sets, particularly girls, do not benefit from this placement.

English schools group students into 'ability' sets using measures of prior attainment including national assessments such as Key Stage 2 tests, commercially available cognitive ability or subject tests or the school's own internal assessments (Muijs & Dunne 2010). However additional information may also be used. For example, perceptions of behaviour or inter-student relationships may be used, or students with specific additional needs placed together in order to share the support of a teaching assistant (Dunne et al. 2011; Hallam & Ireson 2007).

Where attainment grouping is practiced, therefore, students are often 'mis-placed' and can be found in a set that is not commensurate with their level of attainment (Tomlinson 1987). B. Jackson (1968) showed that students' stream allocation was more closely correlated with social background than with 'ability'. His finding is echoed in more recent studies, which have found that students from lower socio-economic backgrounds are over-represented in bottom groups (Cassen & Kingdon 2007; Dunne et al. 2007; Kutnick, Blatchford et al. 2005). Other groups more likely to be found in lower sets include those from certain minority ethnic backgrounds, boys and students with English as an additional language or special educational needs (Abraham 1989; Ball 1981; Chambers 2009; Hargreaves 1967; Kutnick, Sebba et al. 2005; Lacey 1970; Chambers & McCready 2011). Students in these groups make less

progress and achieve lower outcomes than their peers in higher sets (Higgins et al. 2015; Ireson & Hallam 2001; Kutnick, Blatchford et al. 2005; Slavin 1990). This leads to the conclusion that placement of students from disadvantaged backgrounds in low attainment groups results in their being doubly disadvantaged (Francis et al. 2016). Higgins et al. (2015) state that ‘low attaining learners fall behind by one or two months a year, on average, when compared with the progress of similar students in classes with mixed ability groups.’ They attribute this to the impact of ‘ability’ grouping on low attaining students’ confidence and students’ belief in their ability to achieve more through greater effort. Higgins et al. find the effect to be particularly strong in mathematics – where, ironically, setting is most strongly preferred (Kutnick et al. 2006; Reid et al. 1981).

The progress and achievement of the most disadvantaged students in England is currently the focus of government scrutiny, with schools given ‘Pupil Premium’ funding to close the attainment gap between economically and socially disadvantaged students (those who have been in receipt of free school meals within the past six school years, and children who have ever been in foster care) and the rest (DfE & EFA 2014, updated 2015). There is evidence that despite this policy emphasis and high levels of school accountability, one evidence-based strategy that schools are *not* adopting to raise the attainment of their disadvantaged students is mixed attainment grouping.

Evidence-based practice and doing ‘what works’

There is much emphasis on evidence-based practice in contemporary English education policy (DfE, nd). The present (Conservative) Government has maintained the discourse of evidence-based policymaking and practice developed by the previous two Governments (Labour, and Coalition) (see e.g. Ball (2013) and Whitty (2016) for discussion, and see Goldacre (2013))ⁱ. To this end, it has also maintained funding of the seven ‘What Works’

centres instigated by the Coalition Government to promote evidence-based policy and practice in different areas of public service (Cabinet Office 2013). One such centre is the Education Endowment Foundation, established in 2011 with the purpose of ‘breaking the link between family income and educational achievement, ensuring that children from all backgrounds can fulfil their potential and make the most of their talents,’ (EEF 2016). To this end, the Education Endowment Foundation funds and evaluates educational innovations and encourages the adoption of practices shown to be effective.

This impetus for evidence-based practice is having a discernible impact on schools. The Education Endowment Foundation has produced a toolkit which summarises research evidence and the effect sizes of a variety of different interventions, providing a resource for schools to draw on in informing practice and spending (Higgins et al. 2015). 64% of school leaders say that they have accessed the Toolkit to inform their spending on Pupil Premium (National Audit Office 2015). Teaching School Alliances and other organisations are also committed to drawing on and even creating research evidence. Furthermore, a number of organisations and blogs promote and disseminate research evidence for teachers (a notable case is the grassroots organisation ResearchEd, which promotes research literacy and the dissemination of research with the purpose of improving the effectiveness of practice (ResearchED 2016)).

In this climate of enthusiasm for research-informed practice, and given the research evidence on attainment grouping, one might expect to see a trend for schools to be abandoning ‘ability grouping’ and adopting mixed attainment teaching. This is particularly the case given the current policy emphasis on closing the attainment gap between students eligible for Pupil Premium and their peers, and in relation to the findings noted above concerning the concentration of students from disadvantaged backgrounds in low attainment groups, and their outcomes. The EEF Toolkit specifically includes a section on attainment grouping,

summarising the impact of setting and streaming as ‘Negative impact for very low or no cost, based on moderate evidence’ (Higgins et al. 2015). However such abandonment of attainment grouping is far from the reality, as we will now show.

Prevalence of grouping practices and resistance to the evidence

The exact prevalence of different ‘ability’ grouping practices is difficult to establish. However, what evidence there is suggests that homogenous attainment grouping has steadily increased and now predominates. One study, focusing on 44 English schools in areas of disadvantage, found that 100% of secondary schools taught mathematics to set groups in all years, while 52.7% of schools taught Year 7/8 students English in set groups, rising to 77.2% in Year 10 (Dunne et al. 2007). Ofsted data from 2001-02 and 2003-04 indicate that fewer than 5% of schools streamed their students, while across all subjects setting increased from 26% in Year 7 to 44% in Year 9, with up to 83% of mathematics lessons and 48% of English lessons set (cited in Kutnick, Sebba et al. 2005, pp. 9-10). Kutnick, Sebba et al. (2005) found that setting in mathematics rose from 53% in Year 7 to 100% in Year 10 and from 34% in Year 7 to 63% in Year 10 for English. Other sources confirm these high figures, particularly for students in Key Stage 4 towards the end of their time in compulsory schooling (Stewart 2013). The practice of setting has also been extending into primary schools, including in Key Stage 1 (Hallam 2012). Furthermore, in 2015 the Department for Education published a report of a study investigating how schools differ in the performance of students receiving Pupil Premium, which indicated that 34.4% of schools sampled had ‘introduced/improved setting or streaming’ as a strategy for closing the attainment gap (DfE 2015b). It is clear from the above that research evidence against setting and streaming is being overlooked by schools when it comes to ‘ability’ grouping practices. As we have elaborated elsewhere (Francis et al. 2016), there is a range of socio-political explanations for the longstanding commitment to attainment grouping in the English schooling system. We have shown how successive

governments have actively advocated setting especially, and problematised mixed attainment practice (Dracup 2014; Francis et al. 2016; Husbands 2014). We traced the socio-historic associations between segregation by ‘ability’ and notions of educational (and social) ‘excellence’, and the ways in which these deeply resonant discourses have been maintained in political debate (Francis et al. 2016). Nevertheless, there may also be practical and pedagogical explanations for the reluctance to engage with mixed attainment grouping, and it is this that we seek to investigate in this article.

This article explores the responses of teachers to the proposition of mixed attainment practice. Drawing on data from the pilot and recruitment phases of a mixed methods study including pedagogic interventions on student grouping, we report the challenges experienced in recruiting schools to mixed attainment practice, and identify and discuss the various explanations provided by teachers for their wariness of mixed attainment grouping.

Methodology

The present study

The authors are currently conducting a large-scale research project investigating grouping practices. The ‘Best Practice in Grouping Students’ project, funded by the Education Endowment Foundation, involves a randomised controlled trial (RCT) investigating setting and a feasibility study investigating mixed attainment grouping, each lasting two years. The trials build on the international educational and sociological literature on the practice and outcomes of attainment grouping and on existing pedagogic research evidence, to implement good practice interventions in student grouping. The project seeks to monitor and compare progress and attainment outcomes for low achieving (and other) students following the adoption of specific grouping practices. In this way it is intended to provide evidence concerning the efficacy of different approaches to student grouping on improving the

attainment of (disproportionately disadvantaged) low achieving students and hence for narrowing the socio-economic gap for attainment.

This article reports on data collected during the pilot year with mixed attainment schools and recruitment phase of the Best Practice in Grouping Students RCT. The methods will be reported in two sections: first to report the procedure for recruitment to the two RCT studies (and the nature of the data arising from this); and second, to give an account of the pilot phase of the project, the schools participating, and how data was collected from these schools.

Recruitment for the RCT study

As described above, the main study comprises two trials spanning two years (along with other mixed methods including large-scale surveys and qualitative interviewing), which are presently ongoing. The intention at the outset was to recruit at least 120 schools to the Best Practice in Setting trial and 20 to the Best Practice in Mixed Attainment trial. Given the scale of the project, the NFER were commissioned to lead in the recruitment process.

The NFER conducted two random samples (one for each trial) of English non-selective schools and academies with Year 7 and 8 classes, using an agreed list of local authorities as the sample frame. The NFER wrote to sampled schools and invited them to return a form indicating eligibility (based on prior grouping practicesⁱⁱ) and willingness to participate in the RCT. When the forms were returned and eligibility and consent confirmed, the schools were considered to be participating and added to the list for randomisation. NFER reported regularly to the project team on their progress during the recruitment period and their reports form part of the data for this article.

The project team also recruited schools, using social and traditional media, subject organisations, Local Authority and Multi-Academy Trust brokers, and publicity via the Association of School and College Leaders and Association of Teachers and Lecturers to generate interest. Schools contacted the research team directly and expressed interest. The team then checked eligibility and confirmed the school's participation, adding them to the list for randomisation once consent had been given by the Headteacher and relevant Heads of Department. During this process, recruitment logs were kept by the project team, recording notes on communications with schools, and email communication with schools was preserved. These records comprise the remainder of the data relating to recruitment.

The pilot participant schools

Prior to commencement of the RCT study period, and while recruitment to that study was ongoing, the team operated a pilot year (September 2014 - July 2015). During the pilot year the interventions were developed with the support of seven secondary schools: four who practised mixed attainment grouping in Year 7 and three who practised setting. The data reported in this paper relates to the mixed attainment pilot schools only.

Three mixed attainment pilot schools were invited to participate, drawing on pre-existing relationships with the researchers. One school was later required to leave the project and was replaced by a fourth school. The three remaining schools were all judged 'Outstanding' by OFSTED at the time of the pilot project.

The schools are located in four different local authorities and serve very different communities. Larigan School is an inner-city, larger than average, all-girls comprehensive Local Authority school. The majority of pupils are of South Asian heritage and the school is in the highest quintile nationally for number of students eligible for free school meals.

Redlake School is a large, mixed, comprehensive academy school, which serves an affluent

suburb in the South East of England. The majority of students are from white backgrounds and it is in the lowest quintile nationally for number of students eligible for free school meals. Tyburn School is an average-sized, mixed, comprehensive Local Authority school in an inner-city area. The majority of students are Bangladeshi and the school is in the highest quintile nationally for free school meals. This school left the project in December of the pilot year and was replaced the following month by Dene School. Dene School is an average-sized, all-girls, comprehensive academy school within a Midlands local authority that includes grammar schools. It is situated in a leafy suburb of a large city and the number of students from black and minority ethnic backgrounds is around the national average. The school is in the third quintile nationally for number of students eligible for free school meals.

Both the English and mathematics departments from Larigan, Redlake and Tyburn participated in the pilot phase of the study. Only the mathematics department from Dene participated, as the English department was committed to setting. All departments were experienced in teaching mixed attainment groups, with the exception of the mathematics department at Larigan, who started mixed attainment grouping in Year 7 at the beginning of the pilot year. Each department had put forward two teachers to work with the research team, with the exception of the mathematics department at Redlake School where there was one participating teacher.

During the pilot year, the research team met six times with teachers from the pilot schools at the researchers' HEI and twice in each of the teachers' own schools. During the HEI-based meetings a number of activities took place including: researchers sharing evidence from the academic literature regarding teaching mixed attainment classes, teachers sharing their planning documents and classroom resources, discussions regarding successful classroom practice, piloting of research instruments and development and trialling of intervention materials, and feedback on the experiences of teachers in piloting the approaches and

materials with colleagues and in the classroom. The researchers kept notes on meetings with teachers and key discussions were recorded and transcribed.

Pilot teacher feedback was gathered via a range of methods. Sixteen teachers from our Best Practice in Mixed Attainment pilot schools completed a mini questionnaire with open-ended questions at the beginning and end of the pilot year. They were asked what challenges relating to mixed-attainment teaching they anticipated and experienced. These questionnaire responses are analysed in the findings sections, along with additional qualitative data from the transcripts from the meetings at the HEI, and from two individual in-depth interviews held towards the end of the pilot year with the Head of English and Head of Mathematics from Larigan School. These middle leaders were interviewed about their experiences in the project and with mixed attainment teaching more widely as part of the process of developing research instruments for the main study.

Transcriptions of these interviews, meetings, and the responses to the questionnaires were read and analysed by the first two authors for the explanations given relating to the challenges of mixed-attainment teaching. These, and the recruitment process and numerical outcomes for participation in the RCT, comprise the data analysed as the basis for this article.

A ‘bottom-up’ content analytic approach was applied to the initial stage of analysis, to identify emergent themes. Given the identified nature of the content, we have then drawn on C. Jackson’s (2010) exploration of fear in education as a lens with which to illuminate the trends emerging in our data. Although C. Jackson (2010) acknowledges that fear is an “ill-defined and slippery concept” (p.40), she makes a convincing argument for the value of its analysis in educational contexts. Concurring with Bourke (2005), C. Jackson conceives fear not as simply ‘belonging’ to individuals or particular social groups, but as mediating between the individual and the social. C. Jackson advocates the utility of researchers asking four key

questions concerning the nature, source and effects of fear in education, and how these fears may be addressed (see C. Jackson 2010, p. 40). We also draw on Welner and Burris (2006), who explore strategies for changing school practices away from attainment grouping. Welner and Burris examined two case studies of schools in the USA where they perceived ‘resistance tied to beliefs and values (known as normative resistance)’ (p91). We recognise parallels with the fear-based resistance we have identified and suggest how their proposed strategy of ‘*winning them over*’ (p91, italics original) might be applied in the English case. Indeed Welner and Burris write specifically about parents’ fears, teachers’ apprehension and the perceived threat to children’s education. We seek to apply these approaches in the analysis elaborated in this article.

Findings and discussion

As with the methods above, the findings are reported in two sections. In the first section, the data relating to recruitment to the randomised controlled trial studies is analysed, providing some indications of areas of concern. In the second section, we analyse more fully the data from the questionnaires and interviews completed by pilot school teachers to explore in detail the role of fear in attitudes to mixed attainment grouping.

Recruitment to randomised controlled trials

The project team’s recruitment strategy led to 175 schools being in touch with the HEI team. Of these, 108 expressed a specific interest in one of the two trials, Best Practice in Setting or Best Practice in Mixed Attainment. The 67 remaining schools were either ineligible (e.g. fee-paying or selective schools) or did not get so far as to express a preference for either trial.

Twenty-seven schools expressed interest in the Best Practice in Mixed Attainment trial, of which 11 returned signed agreement forms to the project team. Eighty-one schools expressed interest in the Best Practice in Setting trial, of which 46 went on to commit to the trial.

The NFER were commissioned to lead in recruiting schools to the project. They conducted two simple random samples of English state-funded secondary schools, excluding grammar schools and representing a diverse range of ‘hub’ areas across England. This resulted in 640 schools sampled for the Best Practice in Setting trial and 158 for the Best Practice in Mixed Attainment trial. The NFER wrote to these schools and invited them to participate, asking for confirmation of their prior grouping practices in order to establish eligibility. This resulted in the recruitment of 65 schools to the Best Practice in Setting trial and five schools to the Best Practice in Mixed Attainment trial. There followed a top-up random sample of 194 schools from additional local authority areas for the Best Practice in Setting trial, from which 21 schools were recruited. No top-up sample was carried out for Best Practice in Mixed Attainment, although in the extended recruitment period one additional school was recruited to the Best Practice in Mixed Attainment trial from the original random sample.

At the end of the (intensive) recruitment period, 122 mathematics departments and 85 English departments had been recruited to the Best Practice in Setting trial and 17 schools to the Best Practice in Mixed Attainment trial. Hence, although the team were eventually successful in recruiting and exceeding the targeted number of schools to the Best Practice in Setting trial (target 120 schools), it proved impossible to recruit the required number of schools to the mixed attainment trial, even for our far smaller intended sample (target 20 schools in the London area; achieved 17 across the country). This was despite incentives such as the association for schools with the Education Endowment Foundation (which plays well externally for schools and for inspection, given the implication of commitment to evidence based practice and to ‘narrowing gaps’) and a financial incentive for schools randomised to

the control condition. This finding indicates a reluctance of schools to engage with mixed attainment practice.

The lower number of schools willing to participate in the Best Practice in Mixed Attainment trial, compared with Best Practice in Setting, is likely to reflect in part the much smaller number of schools operating mixed-attainment grouping for both English and mathematics. Where schools indicated reasons for signing up to the trial, they often stated that they were already doing mixed attainment grouping, or had already decided to move to mixed attainment grouping for 2015-16.

We had originally anticipated that schools might be willing to change to mixed attainment grouping for the trial, but this seems to have been a minority position. Instead, we recruited largely schools that were already doing mixed attainment teaching, or who had already decided to change their practices before they heard about the trial. At least two schools joined the trial intentionally to share their strong commitment to mixed attainment teaching with others. These schools were keen exponents of mixed attainment practice and told us by email that they wanted to change perceptions of mixed 'ability' grouping. In the case of one school we received emails from the Principal and two other members of staff expressing excitement about the possibility of joining the project and so encouraging others to adopt mixed attainment teaching. Other schools that we recruited, either already doing mixed attainment or having already decided to move to mixed attainment grouping for 2015-16, were seeking support and professional development. Some schools were very cautious about adopting mixed attainment grouping and were actively deciding whether to do so whilst in communication with us.

Overall, this data from the recruitment phase indicates conservatism with regard to grouping practices and fears about mixed attainment teaching. We suggest that fear of mixed

attainment grouping has persisted over time in English secondary schools (C. Jackson, 2010). The fearful approach can be contrasted with the enthusiasm of schools for whom mixed attainment teaching is an important part of their identity and mission, offering some hope for addressing it.

Mixed attainment: attrition and deviation

As outlined above, it proved much harder to recruit schools to the Best Practice in Mixed Attainment trial than to the Best Practice in Setting trial. Once recruited to the mixed attainment trial, the schools were randomised to intervention and control with odds of 2-1 for allocation to the intervention group. As the intervention began, so did attrition from the sample and deviation from specified mixed attainment practices.

It appeared that there were misconceptions around the meaning of mixed attainment practice: three schools that described their practices as mixed attainment were in fact operating with broad sets: a top level for high attaining students, a bottom level for low attaining students and the rest in one or more 'mixed' groups. It was not possible, therefore, for these schools to remain in the trial. The assumptions made by these schools about the definition of mixed attainment grouping demonstrate how deep-rooted and normalised the commitment to setting is. In one school mixed ability groups were even referred to as 'sets'. The adherence to the language of ability grouping confirms that the default position is to group by ability. In other cases, middle leaders or classroom teachers were enthusiastic, but unable to persuade the Principal to authorise a move to mixed attainment. We see here fearful senior leaders overriding the desire of middle leaders and teachers to try mixed attainment grouping.

Two further schools were fully withdrawn from the trial. One school, although positive about mixed attainment grouping, felt that they did not have sufficient time to prepare for what they

perceived as a major change in practice. The other was randomised by mistake following a data input error.

Two schools who made late decisions not to proceed with mixed attainment grouping because of changes in school circumstances prior to taking up the intervention. In one case, unexpected examination results led to curriculum changes and a renewed commitment to setting. In the other case, a change in middle leader made mixed attainment unviable for the school.

In total, five schools were fully withdrawn from the trial and two were classed as ‘intention to treat’ (C. Torgerson & D. Torgerson 2013).

One school remained in the trial, but is only applying mixed attainment grouping in mathematics with approximately one third of its Year 7 students taken from across the same prior attainment range as their set groups. This school felt it would be too controversial for the whole Year 7 cohort to move to mixed attainment in mathematics at once, with particular concern about how parents might respond.

Our communications with some of these schools indicate that mixed attainment is perceived as a risk and evokes a range of fears (C. Jackson 2010). They fear that parents may respond negatively and results will be endangered. Both are significant threats within the education market context (Gewirtz, Ball, & Bowe 1995), where unconventional practices can deter parents from choosing a school, threatening the school’s future funding and continuation. Welner and Burris (2006) advise that parental concerns should be addressed directly, perceiving that parents are concerned with the achievement of their own child above equity. Schools can address these concerns by explaining clearly how the needs of all students will be met effectively in the classroom.

Negative impacts on attainment can also jeopardise a school's Ofsted inspection outcome, a further identified source of fear for teachers and school leaders (C. Jackson 2010; Perryman 2012) and impediment to innovation (Academies Commission 2013).

It also appears that the personal commitment of the relevant middle leader is necessary to implement mixed attainment. The importance of supportive leadership is emphasised by Welner and Burris (2006) who identify a commitment by leaders to outstanding outcomes and equity as fundamental to reform. We did not find this level of commitment in the schools that did not proceed. The significance of the relevant middle leader, as well as senior leaders, is reinforced by a project note about the school unable to move to mixed attainment grouping in time for the start of the trial. This note, made following one of the initial professional development sessions, also raises the issue of two other constraints, namely timetabling and teacher preparation.

The deputy head was quite clear that it was impossible for them to do anything for September, because their timetabling would not allow it (they operate attainment-based banding in both maths and English in year 7) and they will not be ready to make such a big shift in practice in that time. The head of maths did not attend and it was clear that he or she was not on board with moving to mixed attainment teaching.

Project team professional development log

We have shown above that despite the favourable research evidence, it was difficult to locate schools who were already using mixed attainment grouping in both English and mathematics or to persuade schools to adopt mixed attainment teaching when we tried to recruit them to our randomised controlled trial. Even once signed up, schools found it difficult to meet the requirement for 'purely' mixed attainment practice. Research suggests it would be better to overcome fears and adopt mixed attainment grouping (Higgins et al., 2015): we will proceed

to explore the sources of fear of mixed attainment practice in more detail in order to make suggestions as to how schools can be encouraged to address it.

Sources of fear of mixed attainment grouping

The data collected during the recruitment period already suggests that conservatism, and fears expressed in perceptions of risk and concerns about stakeholders are barriers to the adoption of mixed attainment grouping. It is more difficult from the present data set to identify why schools might be attracted to it, but we had a number of schools from one local authority where there was an enthusiastic advocate for mixed attainment grouping. Other schools were looking for novel strategies to raise attainment, and mixed-attainment grouping was something they hadn't yet tried. The majority, as we have said, were long-term historic proponents of mixed-attainment practice.

To explore sources of fear further, transcriptions of the interviews with the Head of English and Head of Mathematics from Larigan School, and the responses to the questionnaires completed by pilot school teachers at the beginning and end of the pilot year were read and analysed for explanations relating to the challenges of mixed-attainment teaching. These emerging explanations are summarised in Table 1, where we attempt to group the concerns articulated by theme. Numbers indicate the number of times a theme or concern was articulated.

[Table 1 near here]

The most frequently-mentioned difficulties related to stakeholder opinions, workload and pedagogy. There was particular concern about resistance from colleagues and lack of time to do the work necessary to teach mixed attainment groupings. For example, asked in the questionnaire about the challenges of mixed attainment teaching, teachers responded:

Getting the department teachers on board; changing mind-sets of established teachers.

The biggest challenge was to get the team on board with the idea of mixed ability teaching in maths as experienced members in the team had no exposure to any such practices.

The teachers seemed to feel that positive feelings about changing to mixed attainment teaching are held by only a minority of their colleagues. The dominance of setting as a method of organising teaching groups over such a prolonged period of time (Dunne et al., 2007; Kutnick, Sebba et al., 2005), may mean that in mathematics particularly there are relatively few teachers with experience of mixed-attainment teaching. Teachers tend to adhere to similar classroom practices over time, making only superficial adjustments (Cuban, Kirkpatrick, & Peck, 2001; Ruthven, 2009; Stigler & Hiebert 1999). Experienced teachers are a resource that schools rely upon to deliver quality teaching and act as models to new teachers, so when they are unsettled the system can be undermined. Previous research has found that teachers in their first year or with more than ten years' teaching experience are least likely to see the advantages of mixed attainment teaching (Reid et al. 1981). By contrast, those with prior experience of teaching across the full attainment range, or of teaching mixed attainment groups and those whose initial teacher training placements included mixed attainment teaching are more likely to perceive more advantages to mixed attainment. Teachers are also more likely to hold positive attitudes to mixed attainment teaching when they have some control over whether and how it is introduced (Reid et al. 1981). Welner and Burris (2006) suggest that teachers should be eased into teaching mixed attainment groups and provided with support and encouragement.

It is well-documented that teachers feel their workload is a source of great pressure (Banning-Lover, 2016; DfE, 2015a). The teachers involved in our pilot feared that mixed attainment teaching would add to that burden, as illustrated by the questionnaire responses regarding challenges of mixed attainment:

Time is always an issue in teaching.

Time for teachers to participate/ facilitate/ develop principles and materials.

Time pressure!

Part of the reason for constructing a move to mixed attainment teaching as time-consuming is due to the need to develop entirely new lesson plans and resources: teachers were acknowledging that they could no longer use the materials they were accustomed to using with set groups. However, there is also a perception that it is almost always much more time-consuming to prepare for a mixed attainment group than for a set. This is because many teachers assume that multiple activities must be prepared in order to meet all learners' needs. This has resulted in some teachers claiming that mixed attainment teaching is unfeasible (Delisle, 2015). We suggest that differentiation is better achieved through carefully-designed, stimulating tasks that all students are able to make a start on. This type of task enables the teacher to offer rich feedback to students and allows students at all levels of prior attainment to progress (Hodgen & Webb, 2008; Hodgen & Wiliam, 2006; Marshall & Wiliam, 2006). A gradual approach to the introduction of mixed attainment groups, focusing on specific year groups may also help with the impact on workload (Welner and Burris, 2006).

Connected with concerns about time and workload, pedagogy was the third area of concern, particularly the perceived difficulty of meeting the needs of all students in the classroom.

This was framed in a number of different ways in responses to the questionnaire, such as ‘differentiation’, ‘high attaining students’, ‘low attaining students’ and ‘pace’.

Differentiation to a wide range and to stretch and challenge more able without causing disappointment to less able in the same class seems challenging.

If many of the students have weaker prior attainment it can be very easy to slip and have lowered expectations.

As stated above, when teaching sets, research shows that teachers tend to view student attainment and capabilities within a set as homogenous (Hallam & Ireson 2005; Hodgen 2011) and thus feel that differentiation is not a concern. Encountering students of a range of prior attainment within the same classroom is constructed as unfamiliar and intimidating. In fact the treatment of students within an ‘ability’ set as homogeneous is widely criticised (Boaler 1997; Hallam & Ireson 2005; Hodgen 2011) and there is an adage that ‘every class is a mixed ability class’. Nevertheless, the fearful perception that mixed attainment groups are harder work to teach than sets predominates. Fear of failing to meet the needs of lower attaining learners can be alleviated through the provision of support for those struggling in a mixed group (Rubin & Noguera 2004, cited in Welner and Burriss 2006).

Several of the same ideas, such as differentiation, workload and stakeholder opinions, were echoed in the more detailed responses in interviews with the Heads of Mathematics and English at Larigan School. These middle leaders’ accountability for departmental results and responsibility for leading their colleagues introduced two new areas: issues relating to the management of change and to accountability.

[The teachers] do genuinely want their kids to do really, really well in the class and they don’t want anything at the cost of the results [school name] has been producing

in maths from the students. If they're not sure they will say, "Let's take a back seat on this for this reason and let's be sure of this before we move forward."

Head of Mathematics

...The teachers are measured on progress so they are going to be worried about trying something new, which would be the biggest barrier. Every school is being measured, the measures are changing every day. So I think it's the worry about trying something new where it may cost them. Or may not cost them but it's the worry.

Head of Mathematics

The head of subject has responsibility for managing these fears on the part of her team and ensuring that teachers are in a position to teach mixed attainment groups confidently and successfully. As we have already observed, the climate is one of 'high stakes' both for the teacher through the appraisal process (DfE, 2013) and for the school via Ofsted and through parent choice (Ball, Bowe, & Gewirtz 1996; Gewirtz et al. 1995; Perryman, 2012). As C. Jackson (2010) has specifically argued, this climate of heightened accountability, closely coupled to student attainment expressed by performance indicators, generates and perpetuates a set of fears for teachers and senior leaders, with both emotional and behavioural consequences.

In the case of student grouping practice, it appears that a vicious circle arises. The perception of mixed attainment teaching as risky and difficult means that few schools take up the challenge – for mathematics in particular. This may make it even more difficult for schools to adopt mixed attainment practices, for reasons described above. In both the questionnaires and interviews, resource development was mentioned as a barrier to mixed attainment practice. As there is a relatively small market for teaching resources tailored to mixed attainment

teaching, there are very few off-the-shelf resources available and so teachers would need to develop all or nearly all their own resources. Similarly, there are few exemplars for schools to draw on:

I would have loved my teachers to get more opportunities to go out and see different schools. We couldn't find schools. ... The majority of [the ones we found] were not really mixed ability because they were either grammar schools or selective schools and that's not a real mixed ability. That's something similar to set 1 and set 2 teaching.

Head of Mathematics

What is intriguing is that we have found such explanations of a lack of exemplars and materials to be frequently used by mathematics teachers within Larigan School where other departments teach mixed attainment as standard (such as History, Geography and Philosophy & Religious Studies, in addition to creative subjects such as Art and Music). Nevertheless, a shortage of exemplars and resources – whether due to reality or to levels of awareness - means that teachers used to segregation by attainment lack evidence that mixed attainment teaching can be successful, thus reproducing fear of mixed attainment grouping and deterring schools – and our perception is that this effect is stronger for mathematics than for English. The vicious circle is summarised in Figure 1.

[Figure 1 near here]

The action of the vicious circle is despite the research evidence that mixed attainment teaching may be beneficial to many students, with fear resulting in detrimental consequences, particularly for students in low attaining sets (Higgins et al. 2015).

Nevertheless, mixed attainment practice is attractive to some, and has passionate advocates among teachers. As with the difficulties identified above, we analysed the mini questionnaire responses of pilot teachers for the factors that attract them to mixed attainment teaching. These are summarised in table 2. Benefits to students were identified most often, with these including increased confidence, unlocking potential and mutual support. Teachers also perceived that mixed attainment teaching made them into better teachers. Some colleagues had been directed to switch to mixed attainment and were sceptical to begin with but were won over (cf. Reid et al. (1981), who suggest that a directive approach to introducing mixed attainment can be counter-productive). Collegiate working practices and a fairer, more inclusive education were also perceived to be attractive features of mixed-attainment teaching.

[Table 2 near here]

Although these factors are all encouraging of mixed attainment practice, it is difficult to see that any of these as mere assertions will break the vicious circle for fearful non-adopters, either on their own or together. For example, many teachers believe that setting confers benefits on students, despite evidence to the contrary. In our ongoing trial, we are working closely with teachers from a group of schools, supporting them through the process of adopting and/or improving mixed attainment teaching and in the hope of building the research evidence in support of mixed attainment grouping. We hope that a strengthened evidence base will enable the fear of mixed attainment grouping to be addressed through robust support for changes to policy and practice. Our initial experiences are promising, with the impression given that teachers are gaining in confidence and conviction that mixed-attainment teaching can be successful.

Conclusion

The recruitment records and recruitment outcomes to our large-scale project, and qualitative data gathered in our pilot study, show that schools are generally reluctant to engage with mixed attainment teaching, particularly in mathematics and even in an educational context that strongly advocates evidence-based practices (in spite of the negative effects of attainment-based grouping).

C. Jackson (2010) poses four questions, to which we have found the following answers in relation to mixed attainment grouping. In answer to the first question regarding the nature of fear, from our conversations with schools during the recruitment process to our trials, and through our questionnaires and interviews, we have found evidence of fearful attitudes toward mixed attainment grouping resulting in a reluctance to adopt these practices. To answer the second question regarding the sources of fear, we have suggested that these perceptions, marked by fear, are reproduced and sustained through mechanisms which range from the logistical to the political. Mixed attainment grouping is widely perceived as difficult, and unconventional, and therefore risky. Anxieties and aversion to risk are promulgated by the discursive context, infrastructure and practices of school accountability (C. Jackson, 2010), which centre on student attainment outcomes. These findings illustrate how fears are perpetuated by, and perpetuate, discourses which may be the deliberate or unintended consequence of policy technologies, with resulting impacts on educational practice. Yet ironically, with regard to C. Jackson's third question, that of effects, it is student attainment outcomes which suffer as a result of this fear, while research suggests outcomes might be improved (at least for low attainers) by mixed attainment grouping. We have proposed that a vicious circle exists, operating to perpetuate the inhibition of mixed attainment teaching in English schools.

Turning to C. Jackson's (2010) fourth question; "How can we address these fears?" (p. 40), we hope, through our current research, to be able to present quantitative and qualitative

evidence of successful mixed attainment practice. However, the disinclination of schools towards mixed-attainment teaching, despite research evidence that is already encouraging, suggests that this will not necessarily be sufficient to effect a significant change. Welner and Burris (2006)'s 'winning them over' strategy includes several suggestions that might address stakeholders' fears. They advise 'steady, determined progress' (p94) rooted in committed leadership. We have shown above that their recommendations for supporting teachers and students, directly engaging all stakeholders and maintaining a relentless focus on excellence and equity would address many of the fears raised by the schools engaged in our research.

We suggest therefore that if mixed-attainment practice is to be widely adopted, a supportive policy climate will need to be created. Teachers will additionally need access to exemplars of effective mixed attainment practice and teaching materials to draw on in developing their own curricula. Mixed attainment practice should be something that teachers get to see in action, as part of their initial teacher education or continuing professional development. Importantly, these will need to happen in the context of a professional climate that facilitates rather than hinders change. Central to this is the liberation of teachers' time, currently too overscheduled to allow for innovation; the expression of a genuine commitment to evidence based practice on the part of the English schools' regulator Ofsted; and the movement towards a professionalised, research-engaged, confident teaching profession.

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References

- Abraham, J. 1989. Testing Hargreaves and Lacey Differentiation-Polarization Theory in a Setted Comprehensive. *British Journal of Sociology*, 40(1), 46-81.
doi:10.2307/590290
- Academies Commission. 2013. *Unleashing greatness: Getting the best from an academised system*. Retrieved from London:
- Ball, S. J. 1981. *Beachside comprehensive: A case-study of secondary schooling*: CUP Archive.
- Ball, S. J. 2013. *The Education Debate* (Second ed.). Bristol: Policy Press.
- Ball, S. J., Bowe, R., & Gewirtz, S. 1996. School choice, social class and distinction: the realization of social advantage in education. *Journal of Education Policy*, 11(1), 89-112.
- Banning-Lover, R. 2016, 22 March 2016. 60-hour weeks and unrealistic targets: teachers' working lives uncovered. *The Guardian*. Retrieved from <http://www.theguardian.com/teacher-network/datablog/2016/mar/22/60-hour-weeks-and-unrealistic-targets-teachers-working-lives-uncovered>
- Bartholomew, H. 2000. *Negotiating identity in the community of the mathematics classroom*.
- Boaler, J. 1997. When even the winners are losers: Evaluating the experiences of top set' students. *Journal of curriculum studies*, 29(2), 165-182.
doi:10.1080/002202797184116
- Boaler, J., & Wiliam, D. 2001. Setting, streaming and mixed-ability teaching. In J. Dillon & M. Maguire (Eds.), *Becoming a teacher* (2nd ed., pp. 173-181). Maidenhead: Open University Press.
- Boaler, J., Wiliam, D., & Brown, M. 2000. Students' experiences of ability grouping-disaffection, polarisation and the construction of failure. *British Educational Research Journal*, 26(5), 631-648.

- Bourke, J. 2005. *Fear: A cultural history*. London: Virago.
- Burris, C. C., & Welner, K. G. 2005. Closing the Achievement Gap by Detracking. *Phi Delta Kappan*, 86(8), 594-598.
- Cabinet Office. 2013. What works network. Retrieved from <https://www.gov.uk/guidance/what-works-network>
- Cahan, S., Linchevski, L., Ygra, N., & Danziger, I. 1996. The cumulative effect of ability grouping on mathematical achievement: A longitudinal perspective. *Studies in Educational Evaluation*, 22(1), 29-40. doi:[http://dx.doi.org/10.1016/0191-491X\(96\)00002-8](http://dx.doi.org/10.1016/0191-491X(96)00002-8)
- Cassen, R., & Kingdon, G. 2007. *Tackling low educational attainment*. Retrieved from York: <http://www.jrf.org.uk/sites/files/jrf/2063-education-schools-achievement.pdf>
- Chambers, T. V. 2009. The "Receivment Gap": School Tracking Policies and the Fallacy of the "Achievement Gap". *The Journal of Negro Education*, 78(4), 417-431.
- Cuban, L., Kirkpatrick, H., & Peck, C. 2001. High access and low use of technologies in high school classrooms: explaining an apparent paradox. *American Educational Research Journal*, 38(4), 813-834.
- Dar, Y., & Resh, N. 1994. Separating and mixing students for learning: concepts and research. *Pedagogisch Tijdschrift*, 19(2), 109-126.
- Delisle, J. R. 2015. Differentiation doesn't work. *Education Week*. Retrieved from <http://www.edweek.org/ew/articles/2015/01/07/differentiation-doesnt-work.html?r=72617547&preview=1>
- DfE (Department for Education). 2013. New advice to help schools set performance-related pay. Retrieved from <https://www.gov.uk/government/news/new-advice-to-help-schools-set-performance-related-pay>

- DfE (Department for Education). 2015a. *Government response to the workload challenge*. (DFE-00058-2015). London: DfE Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/415874/Government_Response_to_the_Workload_Challenge.pdf.
- DfE (Department for Education). 2015b. Supporting the attainment of disadvantaged pupils: articulating success and good practice. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/473974/DFE-RR411_Supporting_the_attainment_of_disadvantaged_pupils.pdf
- DfE (Department for Education). (nd). Research at DfE. Retrieved from <https://www.gov.uk/government/organisations/department-for-education/about/research>
- DfE (Department for Education), & EFA (Education Funding Agency). 2014, updated 2015). Pupil premium: funding and accountability for schools. Retrieved from <https://www.gov.uk/guidance/pupil-premium-information-for-schools-and-alternative-provision-settings>
- DfES (Department for Education and Skills). 2005. *Higher standards, better schools for all: More choice for parents and pupils*. London: HMSO.
- Dracup, T. 2014. The Politics of Setting. Retrieved from <https://giftedphoenix.wordpress.com/2014/11/12/the-politics-of-setting/>
- Dunne, M., Humphreys, S., Dyson, A., Sebba, J., Gallannaugh, F., & Muijs, D. 2011. The teaching and learning of pupils in low-attainment sets. *Curriculum Journal*, 22(4), 485-513.
- Dunne, M., Humphreys, S., Sebba, J., Dyson, A., Gallannaugh, F., & Muijs, D. 2007. *Effective teaching and learning for pupils in low attaining groups*. London.

- Dunne, M., Humphreys, S., Sebba, J., Dyson, A., Gallannaugh, F., & Muijs, D. 2007. Effective teaching and learning for pupils in low attaining groups.
- EEF (Education Endowment Foundation). 2016. Education Endowment Foundation: About. Retrieved from <https://educationendowmentfoundation.org.uk/about/>
- Francis, B., Archer, L., Hodgen, J., Pepper, D., Taylor, B., & Travers, M.-C. 2016. Exploring the relative lack of impact of research on 'ability grouping' in England: a discourse analytic account. *Cambridge Journal of Education*, 1-17.
- Gamoran, A., & Nystrand, M. 1994. Tracking, instruction and achievement. *International Journal of Educational Research*, 21(2), 217-231. doi:[http://dx.doi.org/10.1016/0883-0355\(94\)90033-7](http://dx.doi.org/10.1016/0883-0355(94)90033-7)
- Gewirtz, S., Ball, S. J., & Bowe, R. 1995. *Markets, choice, and equity in education*: Open University Press.
- Goldacre, B. 2013. *Building evidence into education*. Retrieved from London: <https://www.gov.uk/government/news/building-evidence-into-education>
- Hallam, S. 2012. *Streaming and Setting in UK Primary Schools: Evidence from the Millennium Cohort Study*. Paper presented at the FORUM: for Promoting 3-19 Comprehensive Education.
- Hallam, S., & Ireson, J. 2005. Secondary school teachers' pedagogic practices when teaching mixed and structured ability classes. *Research Papers in Education*, 20(1), 3-24.
- Hallam, S., & Ireson, J. 2007. Secondary school pupils' satisfaction with their ability grouping placements. *British Educational Research Journal*, 33(1), 27-45.
- Hallinan, M. T., & Sorensen, A. B. 1987. Ability Grouping and Sex Differences in Mathematics Achievement. *Sociology of Education*, 60(2), 63-72. doi:10.2307/2112582

- Hammersley, M. 2005. The Myth of Research-based Practice: The Critical Case of Educational Inquiry. *International Journal of Social Research Methodology*, 8(4), 317-330. doi:10.1080/1364557042000232844
- Hargreaves, D. H. 1967. *Social relations in a secondary school*. London: Routledge & Kegan Paul.
- Higgins, S., Katsipataki, M., Coleman, R., Henderson, P., Major, L., Coe, R., & Mason, D. 2015. *The Sutton Trust - Education Endowment Foundation Teaching and Learning Toolkit*. London: Education Endowment Foundation.
- Higgins, S., Katsipataki, M., Coleman, R., Henderson, P., Major, L. E., Coe, R., & Mason, D. 2015. *The Sutton Trust - Education Endowment Foundation Teaching and Learning Toolkit*. London: Education Endowment Foundation.
- Hodgen, J. 2011. Setting, streaming and mixed ability teaching. In J. Dillon & M. Maguire (Eds.), *Becoming a Teacher: Issues in Secondary Education*. Maidenhead: Open University Publishing.
- Hodgen, J., & Webb, M. 2008. Questioning, dialogue and feedback. In S. Swaffield (Ed.), *Unlocking Assessment*. Oxford, New York: Routledge.
- Hodgen, J., & Wiliam, D. 2006. *Mathematics inside the black box : assessment for learning in the mathematics classroom*: Slough : nferNelson.
- Husbands, C. 2014. Setting by ability: what is the evidence? Retrieved from <https://ioelondonblog.wordpress.com/2014/09/04/setting-by-ability-what-is-the-evidence/>
- Ireson, J., & Hallam, S. 2001. *Ability grouping in education*: London : Paul Chapman.
- Ireson, J., Hallam, S., & Hurley, C. 2005. What are the effects of ability grouping on GCSE attainment? *British Educational Research Journal*, 31(4), 443-458. doi:10.1080/01411920500148663

- Jackson, B. 1968. *Working Class Community*. Harmondsworth: Penguin.
- Jackson, C. 2010. Fear in education. *Educational Review*, 62(1), 39-52.
doi:10.1080/00131910903469544
- Kutnick, P., Blatchford, P., Clark, H., MacIntyre, H., & Baines, E. 2005. Teachers' understandings of the relationship between within-class (pupil) grouping and learning in secondary schools. *Educational Research*, 47(1), 1-24.
- Kutnick, P., Hodgkinson, S., Sebba, J., Humphreys, S., Galton, M., Steward, S., . . . Baines, E. 2006. *Pupil Grouping Strategies and Practices at Key Stage 2 and 3: Case Studies of 24 Schools in England*. Retrieved from <http://webarchive.nationalarchives.gov.uk/20130401151715/https://www.education.gov.uk/publications/eOrderingDownload/RR796.pdf>
- Kutnick, P., Sebba, J., Blatchford, P., Galton, M., Thorp, J., MacIntyre, H., & Berdondini, L. 2005. *The effects of pupil grouping: Literature review*. Retrieved from London:
- Lacey, C. 1970. *Hightown Grammar: the school as a social system*. Manchester: Manchester University Press.
- Marks, R. 2013. "The blue table means you don't have a clue": the persistence of fixed-ability thinking and practices in primary mathematics in English schools. *FORUM: for Promoting 3-19 Comprehensive Education*, 55(1), 31-44.
doi:http://dx.doi.org/10.2304/forum.2013.55.1.31
- Marshall, B., & Wiliam, D. 2006. *English inside the black box : assessment for learning in the English classroom*: London : GL Assessment.
- Muijs, D., & Dunne, M. 2010. Setting by ability—or is it? A quantitative study of determinants of set placement in English secondary schools. *Educational Research*, 52(4), 391-407.

- National Audit Office. 2015. Funding for disadvantaged pupils. Retrieved from <https://www.nao.org.uk/report/funding-for-disadvantaged-pupils/>
- Nomi, T. 2009. The Effects of Within-Class Ability Grouping on Academic Achievement in Early Elementary Years. *Journal of Research on Educational Effectiveness*, 3(1), 56-92. doi:10.1080/19345740903277601
- Perryman, J. 2012. Inspection and the fabrication of professional and performative processes. In B. Jeffrey & G. Troman (Eds.), *Performativity in UK Education: Ethnographic cases of its effects, agency and reconstruction*. Stroud: E&E.
- Reid, M., Clunies-Ross, L., Goacher, B., & Vile, C. 1981. *Mixed-ability teaching: problems and possibilities*. Windsor: NFER-Nelson.
- ResearchED. 2016. ResearchED: About. Retrieved from <http://www.workingoutwhatworks.com/en-GB/About>
- Ruthven, K. 2009. Towards a naturalistic conceptualisation of technology integration in classroom practice: the example of school mathematics. *Education & Didactique*, 3(1), 131-159.
- Slavin, R. E. 1990. Achievement effects of ability grouping in secondary schools: A best-evidence synthesis. *Review of educational research*, 60(3), 471-499.
- Stewart, W. 2013, 5 April 2013. Do setting and streaming work? *Times Educational Supplement*. Retrieved from <https://www.tes.com/article.aspx?storycode=6327587>
- Stigler, J. W., & Hiebert, J. 1999. *The teaching gap : best ideas from the world's teachers for improving education in the classroom*. New York: New York : Free Press.
- Tomlinson, S. 1987. Curriculum option choices in multi-ethnic schools. In B. Troyna (Ed.), *Racial Inequality in Education*. London: Tavistock.
- Torgerson, C. and D. Torgerson (2013). *Randomised controlled trials in education: An introductory handbook*. London: Education Endowment Foundation.

- Venzant Chambers, T. T., & McCready, L. T. 2011. "Making Space" for Ourselves: African American Student Responses to Their Marginalization. *Urban Education*, 46(6), 1352-1378.
- Welner, K. G. and C. C. Burris (2006). Alternative Approaches to the Politics of Detracking. *Theory Into Practice* 45(1), 90-99.
- Whitty, G. 2016. *Research and policy in education: Evidence, ideology and impact*. London: UCL IOE Press.
- William, D., & Bartholomew, H. 2004. It's not which school but which set you're in that matters: the influence of ability grouping practices on student progress in mathematics 1. *British Educational Research Journal*, 30(2), 279-293.
- Zevenbergen, R. 2005. The construction of a mathematical habitus: implications of ability grouping in the middle years. *Journal of curriculum studies*, 37(5), 607-619.

Table 1. Difficulties anticipated and experienced by pilot teachers

<i>Stakeholder opinions</i>		<i>Workload factors</i>		<i>Pedagogic factors</i>		<i>Change factors</i>		<i>Accountability</i>	
Colleagues	6	Time	6	Differentiation	4	Resisting	3	Results	1
Parents	3	Workload	4	Used to setting	4	change until		Judgements	1
Students	2	Resource	2	rather than		certain			
School	1	developmen		mixed		Interpreting	1		
leaders	1	t	1	attainment		policy for the			
Governors		Need for		Pace	2	context			
		training		Nature of		Lack of			
				mathematics	1	exemplars	1		
				High attaining		Departmental			
				students	1	autonomy	1		
				Low attaining					
				students	1				
Total count	1		1		13		6		2
of use of	3		3						
explanations									

Table 2. Reasons given in support of mixed attainment practice.

<i>Reason for mixed attainment practice</i>	<i>Number of occurrences</i>
Benefits to students	6
Passion for/benefits of mixed attainment	4
Improving teaching	4
Decision made by a more senior colleague	3
Developing shared resources/teamwork	3
Inclusion/equality	2

Figure 1. Vicious circle of avoidance of mixed attainment grouping

Notes

ⁱ There has been a great deal of debate as to the validity and extent or otherwise of this ostensible commitment to evidence-based policy making, as well as debates about the extent to which policy can ever be fully evidenced-based, and whether research can ever provide the incontrovertible which appear to be demanded. See e.g. Hammersley (2005). However, these debates are tangential to our point here.

ⁱⁱ Schools were eligible for the Best Practice in Setting trial only if their prior practice was to set students in participating departments (English and/or mathematics). Schools were eligible for the Best Practice in Mixed Attainment trial regardless of prior grouping practices, but they needed to be willing to operate fully mixed-attainment. In order to participate in the Best Practice in Mixed Attainment trial, both the English and mathematics departments needed to be willing to sign up. Either or both English and mathematics departments could participate in the Best Practice in Setting trial.