

How do schools in Scotland measure their own progress?

5. Equity issues arising from the use of performance data

In recent years, the Scottish education system has had an increasing focus on the measurement and management of performance by schools. As part of AERS, we are investigating the ways in which performance data are used by schools. Six schools in different areas of Scotland provide case studies, and demonstrate how they are using different types of data to inform practice and school improvement. In this Feedback we discuss the impact of performance measurement on (in)equities of schooling that have been highlighted by the OECD Review of schooling in Scotland.

- In 2007 a review of Scottish education by the Organisation for Economic Cooperation and Development (OECD) highlighted serious problems of socio-economic inequality. Too many young people leave school with minimal qualifications and have poor chances of transitions to employment.
- Evidence from the case studies suggests there is scope to analyse assessment data more rigorously at the 5-14 stages in order to identify and address inequalities at a stage when early intervention can make a difference. Appropriate analysis of assessment data can provide evidence of the effectiveness of interventions.
- The focus of accountability systems on comparing school performance creates pressures on schools to concentrate resources on marginal pupils who can affect measurable performance indicators in a short space of time.
- We found that some practices adopted by schools to improve performance indicators – especially setting, streaming and broad banding – may exacerbate inequalities within schools.
- There are insufficient data on inequalities within Scottish schools, and little attempt is made to evaluate the social implications of school policies and practices.
- Tracking pupil progress using pupil-level data can identify potential underachievement at an early stage, and setting targets for pupils can raise aspirations.

The OECD Review

In 2006 the OECD were asked by the Scottish Government to examine the strengths of Scotland's schools and the challenges they face in securing high standards for all children. The review shows that while Scotland has relatively high average test scores in the Programme of International Student Assessment (PISA), it faces major challenges in addressing inequalities in achievement and life chances. It points to a widening achievement gap at each stage of education, associated with poverty, deprivation and

low socio-economic status (OECD 2007). It suggests that the attainment gap "opens up about Primary 5" and widens thereafter.

The Review suggests that the focus of current accountability systems on comparing school performance obscures the extent of within-school inequalities. For example, the 2003 PISA analysis indicates that in Scotland just 12.6% of the variance of mathematics scores is between schools compared

with the OECD average of 33.6% (Scottish Executive 2007, p61). It suggests that *“Who you are in Scotland is far more important than the school you attend so far as achievement differences on international tests are concerned” and we need to look more carefully at the “cultural and organisational factors that are common to Scottish schools, but which weigh unequally on individuals of different family backgrounds”* (OECD 2007, p15).

The review also notes that current high profile comparison of performance by schools may prevent schools and local authorities from experimenting with new ways of addressing the needs of disadvantaged youngsters.

The AERS case studies took place in spring 2007, before the OECD Review was published, and did not specifically ask questions about the issues it raises. However, in this Feedback we attempt to draw on them to illuminate some interactions between performance measurement and equity issues.

Need for data and analysis at primary stages

The importance of baseline assessment at the start of primary school was emphasised by the Early Intervention Programme (EIP) in Scotland. At the time of its introduction, in 1997, the emphasis of EIP was on identifying inequalities at the early stages of schooling when intervention can make the most difference to pupils' propensity to learn (Croxford 2007, Fraser 1997). The EIP also demonstrated the value of linking assessment and background data in order to analyse differences between pupils and schools. For example, in one local authority baseline assessment at the start and end of Primary 1 was linked to background information. Analysis of these data identified significant inequalities in attainment at the start of Primary 1 associated with entitlement to free school meals and/or clothing grants, local-area deprivation, age of pupils and first language. Further analysis showed that the gap widened – after taking account of baseline attainment, pupils made less progress by the end of Primary 1 if they were male, had a free school meal or clothing grant, or attended a school with high levels of local-area deprivation (Croxford 1999, 2001). There is therefore evidence that the attainment gap opens at a much earlier stage than was reported by the OECD review, and attempts to address the problem should be focused at earlier stages. Appropriate analysis of assessment data can also provide evidence of the effectiveness of interventions.

Turning to the AERS case studies, we found that all of the primary case studies use forms of baseline assessment to help the teacher to get to know the pupils' capabilities, with further diagnostic tests of additional support needs. However, no attempt is made to link assessment data with background data or to analyse inequalities. None of the schools use the baseline data for subsequent tracking of pupil

progress. In some schools there are limitations posed by the lack of calibration of baseline tests with subsequent assessments – but we note that schools using standardised tests do not make use of their capabilities for tracking progress over time.

In AERS Feedback 4 we discussed the inadequacies of 5-14 National Assessments. We suggest that more appropriate assessments and analysis are needed to identify and address inequalities in attainment and progress. Perhaps this is an area where local authorities need to take a lead.

Comparison of school performance

Until now, comparison of school performance has been a major focus of the accountability system in Scotland. The National Priority measures of attainment, such as the percentage of each cohort achieving five or more awards at Levels 3-6 of the Scottish Credit and Qualifications Framework (SCQF), are used by external observers to judge how well the school is doing in comparison with others. Differences in socio-economic conditions are to some extent recognised in inspections by the identification of comparator schools with which overall performance is compared.

We suggest that this focus on aggregate measures of attainment creates pressures that may increase inequalities. It is easier for schools to achieve measurable improvement in a short space of time by focusing on marginal pupils in the middle and upper attainment range – for example on pupils who are likely to achieve just four awards at SCQF level 5 (Standard Grade credit) but who could achieve the magical five awards if they are given targeted study support – than by attempting to raise the achievement of the lowest attaining pupils (Cowie et al 2007).

Exacerbating inequalities

In some cases the drive to improve school performance indicators leads schools to introduce practices that exacerbate inequalities. In particular, there is a tendency to use ability grouping – such as setting, streaming and broad-banding – in order to increase the school's performance at higher levels of SCQF. This practice is known to widen social inequalities because pupils from lower social classes (especially boys) are most likely to be placed in lower sets or bands (Harlen et al 1999). Pupils in lower sets are “labelled” as being of “lower ability” and this depresses their aspirations. Lower sets tend to be provided with less challenging curriculum and poorer teaching, and to suffer disruptive behaviour.

One of the case study schools allocates pupils to three broad ability bands at the start of S1 on the basis of scores on a cognitive abilities test (CAT). Pupils remain in these bands for all subjects for the first two secondary stages. Within each band pupils have very different experience of the curriculum.

They all follow the same course, but we teach them in different styles. Band 1 tends to be core material which they do in jotters plus a lot of extension work to build upon the skills that they already have. Band 2 tends to be they work into their jotters but there isn't as much of the extension work. We're basically concentrating on completing the core tasks. And Band 3 – it's the same material really, but it's been broken down into smaller segments so that it's easier for the pupils to understand and laid out in such a way that pupils – it's simpler for the pupils to follow and to get their answers.

However, some staff were concerned about the effects on pupils, including the pressure on the top band and the low expectations of the bottom band.

With the Band 1 pupils, the top band, they are being pushed, pushed, they are, I think they are working at a faster level. And we always had early presentation in Maths... But German and French are doing it now as well and I can see that coming in for more subjects. And this can be done because if you've got a very good section of pupils then, you know, they will absorb what you are telling them. And the work ethic will be there. I think it works for Band 2. I'm not so happy about Band 3.

Other case-study schools are committed to mixed-ability classes in the first two secondary stages. Indeed, one school uses CAT scores to ensure a good mix of abilities. In this school the focus is on individual pupils, and the need to raise their aspirations – to overcome the perception “What can you expect from people round here?”

Need for data to identify inequalities

There are insufficient data on inequalities within Scottish schools, and little attempt is made to evaluate the social implications of school practices such as ability grouping. Information is collected about pupils' gender, ethnicity and home language – so it would be possible to monitor these issues. However, social class is the main source of inequality in Scotland, but its effects cannot be analysed because schools have no information about parents' qualifications or occupations.

One of the secondary case studies is part of a pilot scheme to reduce the numbers of young people who are Not in Education Employment or Training (NEET) when they leave school. The school is aware that problems start at early stages of schooling, and are attempting to find ways of identifying pupils at risk of becoming NEET at early stages. They find they are hampered by inadequate data and tracking systems.

Tracking pupils' progress

Currently, the main source of data for evaluating performance in secondary schools is the Standard Tables and Charts (STACS), based on attainment of National Qualifications (NQ). Although STACS provide information on overall gender differences in attainment, they do not provide information on other sources of inequality. A major weakness is their focus on aggregate data at the level of departments and school which does not encourage schools to consider individual students. Longitudinal pupil-level data are needed in order to evaluate pupil progress over a number of year stages.

Some of the case study schools are developing effective systems for tracking the progress of individual pupils (see AERS Feedback No 1). One school uses CAT scores to support pupils in setting aspirational targets at the start of secondary school, and tracks their progress through subsequent stages.

Very much for the pupils' benefit. ...it's about making sure kids are competitive when they go out of that door. It's about making sure that kids are not under-achieving. I'm talking about individual children are not under-achieving. And what I'm saying is that it burdens me when children, who in S4 maybe get 5 Credits and 3 Generals that actually possibly had the ability and the potential to get 8 Credits. Kids who come out with 3 Highers rather than 5 and had the potential, and there was the possibility that that could have been 5 Highers. So it's about individual children. Now the cumulative effect of that is that the school does better.

Discussion

The OECD review brings a timely focus on inequalities in Scottish schooling. Pupils from higher social class backgrounds are well served by the school system which produces high levels of academic attainment and entry to higher education. But the review points to the need to improve the achievement and life chances of those from more disadvantaged backgrounds. It argues that: Schooling is the key institutional point at which the transmission of social disadvantage has the most chance of being broken. (OECD 2007, p110).

While there are limits to the powers of schools to overcome the disadvantages emanating from inequalities within wider society and economy, education is a key factor in improving young people's life chances.

In this AERS Feedback we have attempted to highlight ways in which appropriate data and analysis can be used to identify and address inequalities at the earliest possible stages, and to track pupils' progress through subsequent stages of schooling. Currently the inadequacy of 5-14 National Assessments appears a major obstacle to such analysis, and even schools that

administer standardised tests do not use the potential of these data to evaluate inequalities in progress. We suggest that there is scope for local authorities to take a lead in this respect.

A further aim of this Feedback is to point out some adverse effects of too great an emphasis on performance indicators in education. The current focus on increasing measurable attainment of the National Priority indicators can lead to the adoption of practices that exacerbate inequalities. We would urge schools to evaluate the effects of policies and practices on all pupils and identify those who may be disadvantaged by practices such as ability grouping.

It appears that some of the pressures of the accountability system that have led to such practices may be reduced in future as a result of the change in the inspection regime of HMIE. It appears that in future the priority of inspections will be the quality of school's self-evaluation, with greater emphasis on wider achievement, equality and fairness, listening to the pupil voice, health and wellbeing – including early intervention and prevention of harm. Schools are encouraged to be “data rich” and innovative in gathering data and evidence. It appears that Scotland may be moving towards “Intelligent Accountability” (Cowie et al 2007).

References

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Findings of this research

AERS Feedbacks to case-study schools comprise:

1. Tracking systems
2. Evaluating data to identify issues
3. Formal accountability processes
4. Issues relating to the quality of data and analysis
5. Equity issues arising from the use of performance data

CES Briefings 37 and 43 report other findings of this AERS study and can be downloaded from:

www.ces.ed.ac.uk/publications/briefings.htm

Acknowledgements

This research is being undertaken through the Applied Educational Research Scheme (AERS) School Management and Governance (SMG) network. It explores the increasing use of performance indicators and improvement targets in schools, and investigates how performance measures are used and for what purposes.

Case studies of six schools – two primary, three secondary and one all-through school – in different parts of Scotland have provided valuable information about uses of performance data. We are very grateful to the teachers in these schools for their help in explaining their uses of data and discussing the benefits and drawbacks of each approach.

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