

How do schools in Scotland measure their own progress?

2. Evaluating data to identify issues

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, and for accountability purposes. In this AERS Feedback we examine how the case study schools use data of various types to identify problems and issues that need to be addressed. We also consider how perceptions of data vary among staff with different roles and responsibilities within the schools.

- All the schools evaluate their attainment data to find out how well their pupils are performing in different areas of the curriculum, and to identify any weaknesses in provision. Other types of data evaluated in some schools include attendance/absence, referrals and exclusions. Schools find it more difficult to evaluate wider achievement because of the absence of appropriate data.
- The process of evaluating data is most highly developed and formalised in the secondary sector, using data with recognized validity derived from National Qualifications. Data available to primary schools are more limited and of questionable validity.
- Data are analysed by senior management teams to inform improvement of teaching and learning. The emphasis is on surfacing problems so that they can be dealt with. Data may indicate symptoms of poor performance but they do not necessarily provide diagnoses.
- In schools that have established a climate of trust the interpretation of data is seen as a positive, constructive process in forging good working relationships. Most managers are aware of the need to be supportive in using data relating to individual teachers
- Analysis of data leads to identification of specific problems of learning and teaching, including additional support needs, resource issues, and teaching methods that can then be addressed.

Introduction

Schools use a range of types of data to evaluate their performance and identify issues they need to address. In most of the case study schools there is a strong focus on attainment data, and efforts are also made to evaluate data on attendance/absence, referrals and exclusions. A number of interviewees are interested to find ways record and evaluate wider achievement, and described the difficulty in collating data for this purpose.

Validity of data

Secondary schools have the most performance data available to analyse, and consequently the process of evaluating data is most highly developed and formalised in the secondary sector. Data derived from National Qualifications (NQ), including Standard Tables and Charts (STACS), are analysed in detail in the case study schools. Because they are derived from external examinations, there is an implicit regard for their validity shared equally by all layers of management, thereby

ensuring the data's authority. This in turn provides a firm foundation on which discussion and negotiation regarding the attainment improvement agenda can take place.

In addition, two case study schools use Cognitive Abilities Tests (CAT) to provide baseline data from the start of S1, and regard them as having high validity in supporting predictions of future attainment of individuals and groups of pupils. In one school the CAT data are used for setting individual targets. However, while the CAT data could potentially be used for statistical analysis of "value-added", this methodology is not adopted at present.

In primary schools performance data are more limited and tend to be regarded as lower status. The majority of interviewees question the validity of 5-14 National Assessments (NA), and because of this two of the schools have invested in regular standardised testing to provide more reliable measures of performance. While senior managements in primary schools may see attainment data as useful for tracking attainment, many teachers prefer to use formative assessments and course-related assessments that are not amenable to evaluating overall performance. There is a clear sense of a dilemma between professional knowledge about the child and some form of measurement and accountability that successfully captures the 'whole' child without being an onerous task for the teacher.

The test results on their own are sterile without knowing and understanding the child.

A lot of information we have for the children is carried about in our heads ... I think it's absolutely impossible to ... record everything you know about the child and all the little quirks and things that make up their individual personalities and make up their individual learning styles.

This emphasis on the professional view of the child, confirmed by 5-14 data, is in contrast to the way in which STACS data are used, as objective arbiters of performance.

Use of data and the improvement agenda

Data are analysed by senior management teams to inform improvement of teaching and learning. The emphasis is on surfacing problems so that they can be dealt with.

I suppose as a manager what I'm looking at – "Do we have a teacher who perhaps is not managing to get the best teaching and learning environment in his or her classroom?"

In secondary schools, meetings between senior managers and department/faculty managers make use of attainment data as the basis for discussing overall

departmental performance and that of individual class teachers. Department heads should expect to be challenged about subject courses that appear to be underperforming, with discussion focusing on how to improve them.

By the time you get to STACS data and the consultant's data, it's not about navel-gazing or feeling good and sticking our chest out about good results – it's absolutely the case, by the time we get to that stage, that we're looking at issues around improvement planning and links to learning and teaching.

Decisions taken to address perceived problems include:

- discontinuing courses which STACS suggested are disadvantaging some pupils;
- offering significant support mechanisms to teachers whose pupils demonstrate lower attainment and/or ensuring that pupils in such a situation are appropriately supported.

It is clear that, while data can be used to highlight symptoms of good or poor performance, they do not, on their own, provide prescriptions for solving issues. In one school an external adviser is brought in annually, through the auspices of the local authority, to address examination attainment data with a member of the senior management team and the department head in order to try to identify solutions to issues. In turn, the department head shares these issues with his/her staff to try to identify practical ways of finding solutions through discussion at individual teacher level and at departmental meetings, and to enshrine these strategies in the departments' annual improvement plans.

Impact of data on relationships in schools

Most schools appear to have established a climate of trust in which difficult issues can be discussed openly. In almost all case studies, interpretation of data is seen as a positive, constructive process in forging good working relationships between senior and middle managers. In one school, the head teacher felt s/he had initially overly-criticised staff for poor performance based on data, but had realised that the nature of such criticism had been unhelpful. Head teachers and deputies in secondary and primary schools use data to praise middle managers and class teachers where this is appropriate. They also use data to work collaboratively to identify issues and to offer support and encouragement in seeking possible solutions. In one school, this is at an early stage of development while, elsewhere, practices are more established.

The degree of involvement of senior management in their middle managers' use of STACS data, perhaps

surprisingly, shows some variation. This appears to depend on the extent of involvement of senior managers in the training of middle managers to interpret data. In one school, where the local authority has gone to considerable lengths to ensure that managers at all levels have had training, the senior management works closely with the faculty heads to establish issues and talk through possible solutions. In another school, however, where there has not been the same degree of training from the authority, the senior management has instituted a culture whereby the burden of responsibility for detailed interpretation of STACS data rests with the faculty heads.

Middle managers in secondary schools are seen as responsible for ensuring that action is taken at class teacher level to improve attainment.

I think you've got to ask yourself, what are middle managers here for? I feel that one of my key roles, being a faculty leader, is, if there's a problem, you need to be involved, get your sleeves rolled up and get on with it ...

Most managers are aware of the sensitivity of handling data that identify problems, and that data must be used to support teachers and not to hold teachers to account. Data should be used in conjunction with positively encouraging staff to improve performance.

They take it very, very personally,... it's something we're going to have to play very, very carefully. Because, yes, we can use the statistics but you don't want people ending up being so demoralised that they just think "well what can we do about it?" It's got to be very supportive the way that you use them.

Most class teachers reported that they do not feel held to account through the use of data. Their managements respect their professionalism by listening to their viewpoint and by putting the data into the context of the wider interpretation of pupils' attainment and achievements. This does not imply, however, that teachers do not feel accountable.

If you don't have a look at [consistently poor performance] you're a bit remiss. I would hope that the people themselves would have a look and see what they could do to try and improve it. And the school as a whole should be trying to support them ...

In smaller schools, both primary and secondary, the relationships between senior managers, middle managers and class teachers tends to rely more on personal contact, with issues being discussed through "good old-fashioned conversation". However, in a small school in which some subjects are taught by only one teacher, data showing poor performance require particularly sensitive handling, since that teacher's

performance is clearly identifiable both within and outwith the school setting.

OK so we've identified the situation, let's address it and let's get some positive attainments, turn things around because we know you're a good teacher, we know that it's not really a reflection directly on your teaching ability, but maybe there are things we can look at in general practice.

The small size of the school has the advantage, however, that manager knows the member of staff particularly well and this makes it easier to offer support. On the other hand, the small number of pupils means that attainment data are susceptible to fluctuations which made it difficult to identify trends.

The influence of data on learning and teaching

An important use of assessment data, especially in primary schools, is to identify pupils with additional support needs (ASN). In two of the case study schools standardised baseline tests are found to be particularly useful for early diagnosis of specific learning difficulties so that the learning support staff can undertake additional diagnostic tests and support and monitor the pupil's progress. In some instances they detect high achievers who need to be fast tracked.

Teachers are encouraged at departmental or stage level to discuss their practice and to relate it to performance data. This sometimes focuses on quite specific 'strands' of attainment, e.g. a single aspect of a Higher grade subject. It sometimes identifies resource issues. For example, in two of the primary school case studies the evaluation of attainment data identified problems in the teaching of mathematics, and they addressed this issue by investing in a new mathematics course. Similarly, data in another school revealed weakness in reading and writing that was addressed by a number of initiatives.

In all case studies, teaching staff are encouraged to use attainment data to evaluate learning and teaching in their own classrooms.

We put it across very strongly that every single statistic is an individual child's life chance. And therefore if there's a problem in an area, we're going to sort it out because what matters is that child

Some teachers, however, indicated that statistical data had to be put into the context of a wider range of ways of obtaining feedback about performance, such as formative assessment strategies, topic tests, pupil self-assessments, etc. Some teachers felt that discussion with middle managers involving attainment data was helpful in opening up the agenda regarding pupil attitudes and behaviour.

One primary headteacher expressed regret that evaluation of data leads more often to focus on weak points than giving praise where praise is due; s/he is attempting to ensure data are used to recognise which teachers are performing better than others in order to share good practice – with other teachers encouraged to observe their teaching.

Teachers appear to be more willing to lay themselves open to scrutiny than in the past and generally welcomed, for example, monitoring by middle and senior managers of their classroom practice provided that time was made for the provision of clear feedback.

Discussion

The case studies highlight the importance of a climate of trust within a school so that problems can be discussed openly, and addressed, rather than covered up. Analysis of attainment data brings into focus any apparent weaknesses associated with particular teachers and/or subjects. Such situations require sensitive handling, and work best where a climate of trust had been created within the school.

Several managers stressed how crucial it is to avoid demotivating staff, while simultaneously driving forward the improvement agenda, within a collegiate model. However, even in schools with a strong collegiate structure, both managers and teachers described how stressful the process could be.

The use of data analysis appears to have added significant weight to discussion in secondary schools about pupil attainment since CAT and STACS data appear to contribute significantly to an objective view of pupil performance. This may have led to an increased openness of staff to scrutiny of their classroom practice. Fears that schools may run the risk of over-reliance on data at the expense of reliance on professional judgement, i.e. the knowledge that teachers have of their pupils as individual people rather than a statistic, appear to be unfounded.

It may, however, be overstating the case to say that this new openness has resulted directly from the use of data analysis as a basis for discussion between managers and teachers in schools. It is possible that other factors, not least the introduction of the Assessment is for Learning initiative, with its emphasis on action research, has been more instrumental in encouraging teachers to open their classroom doors.

'A Teaching Profession for the 21st Century' ("McCrone") has led to Faculty Heads now having responsibility for departments that teach subjects than their own. In such instances, CAT and STACS data, with the status that they appear to carry, may provide Faculty Heads with a validity and, therefore, authority that they might otherwise have had difficulty in gaining when dealing with subjects other than their own.

Overall, there appears to be greater ambivalence in primary schools and smaller secondary schools regarding

the validity of data. Small schools, both primary and secondary, appear to avoid over-reliance on data since the small number of pupils makes it harder to pick up attainment trends. The arrival or departure of just one or two pupils in schools, for instance, is known to affect overall attainment results.

Further, there has been no national picture of attainment at 5-14 available to schools since the move away from National Testing to National Assessments. This may have compromised the validity of 5-14 data in the perception of schools' managements and teaching staff. These factors, we suggest, may account, for primary school managers' greater reliance on their teachers' professional judgements in discussions about attainment and teachers' effectiveness.

A question raised by the case studies is whether the challenge and support offered by the local authority is a crucial factor in the school's approach to the use of data. School C, for example, is located in a local authority which had provided limited training in data analysis, and had limited discussion about data with head teachers – in this school it was noted that the management tended to play down reliance on data in their engagement with department/faculty heads on the improvement agenda. By contrast, School D is in a local authority that has provided regular input in the form of training and deployment of an external analyst who worked with senior and middle managers. Here, senior managers expected to have extensive, regular meetings with department/faculty heads to discuss progress in NQ examination and CAT attainment.

In future the process of evaluating data is likely to become more complex as a result of the more flexible and personalised approaches of a Curriculum for Excellence and the development of new NQ, and schools will need considerable support from their local authorities.

Findings of this research

AERS Feedbacks to case-study schools will comprise:

1. Tracking systems
2. Evaluating data to identify issues
3. Formal accountability processes
4. Issues relating to the use of assessment 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

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