Local Government Association

a revolution in the use of data?

the LEA role in data collection, analysis and use and its impact on pupil performance

by Peter Rudd and Deborah Davies
National Foundation for Educational Research

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EXECUTIVE SUMMARY

1. Aims and objectives

> *There has been a revolution in the use of data...* [now] *any teacher will be aware of what is happening... data supports intuition.*
>
> *There has definitely been a revolution. The amount of data has exploded!*
>
> *There has been a cultural shift in the use of data. Nowadays every one of our schools makes good use of data.*

These statements were made by senior officers in local education authorities (LEAs) who were being interviewed about the ways in which pupil performance data is being used by local education authorities (LEAs) and schools. In recent years, the use of pupil performance data for target setting and raising standards of attainment in schools has become increasingly important. So much so that it is now generally acknowledged that there has been a cultural shift or even a '*revolution*' in the ways that schools and LEAs collect and use pupil data. The research reported on here, carried out between 2000 and 2001 as part of the Local Government Association's Educational Research Programme, takes stock of these changes and maps out the role of the LEA in collecting, analysing, disseminating and using pupil data. It examines how schools and LEAs can best work together and make optimum use of pupil performance data and presents examples of good practice in these areas of activity. The central aims of the research were as follows:

- to promote a better understanding of the key issues and problems associated with the use of performance data in different contexts;
- to assess how well LEAs have been preparing and feeding back to schools data that will help school management teams to identify and address underachievement;
- to assess how effective LEAs have been in meeting the needs of schools in terms of presentation of data, training in data use, timing and so on;
- to examine how LEA support for schools has been managed and how the data has been made available so it can be accessed, understood and used effectively by schools, advisers and other LEA personnel.

To meet these objectives, the research team used documentary analysis, in-depth interviews with LEA personnel, school senior managers and

governors, and a questionnaire survey of school subject leaders in English, mathematics and science. The research was focused on eight case-study LEAs (and their schools) which were known to be active in the field of data collection and use and which were representative of a range of geographical and organisational contexts. Altogether 20 senior LEA officers and 38 school managers were interviewed and over 450 questionnaire survey returns were analysed, making this one of the most detailed pieces of research on the use of school performance data ever carried out.

2. The LEA role

The role of the LEA in data collection, analysis and use was examined through the use of documentary materials and detailed interview responses from senior LEA officers. There was considerable variation in the ways that LEAs carried out these activities, but if there was a standard process or cycle, it was something like the following:

- the LEA collects the relevant data from schools and national sources
- the LEA turns this data into a package for each individual school, a *school profile*
- the profile, which includes value-added data, is sent to schools in the autumn
- guidance notes and key questions for schools are included in the package
- visits are made to schools by link inspectors, who assist with interpretation, action planning and target setting
- short training courses in data interpretation and use are provided
- a statistician or adviser will follow up any further school enquiries.

Schools were, on the whole, very happy with the statistical packages and accompanying guidance provided by their LEAs: using and acting upon data was seen by both schools and LEAs as a process, an ongoing dialogue.

The strengths of the LEAs were perceived to be in the general provision of data – '*we are information rich... we have a wonderful base, a really comprehensive picture* [and] *research work is spectacularly good*' – and in addressing the needs of particular phases, subjects or groups of pupils. In six of the eight LEAs featured, there was an emphasis on strengths in the use of primary school data (KS1 and KS2).

For the majority of the LEAs featured, there was a feeling that more needed to be done to address the problem of underachievement across some groups or key phases (several were reflecting the prevailing national pattern by turning their attention to pupil performance in key stage 3), and also that there was a need to look at departmental or subject area effectiveness.

LEA officers recognised that, to a considerable extent, their own organisation or section had to take the lead in using and acting upon data, and that playing just a supporting role was not enough. In five of the eight LEAs featured, it was said that much of the impetus for improving pupil performance had come from an individual, usually the Chief Education Officer (or equivalent), but the importance of input from school improvement teams and dialogue with schools were also stressed.

3. Schools' use of data: the basics

The research team investigated the various forms of data that were available for use by schools, what teachers' preferred forms of data were, and how helpful they found these. Responses from the questionnaire survey revealed that the most frequently used data was that generated by schools themselves (97 per cent of both primary and secondary respondents). LEA-produced data was also used (93 per cent of primary and 86 per cent of secondary respondents). Additionally, key stage test results and PANDA data were also very well used in both sectors. The Autumn Package was also used by a large majority of schools in each sector. External, commercially produced data packages were used by a minority of respondents in both sectors.

Respondents who took part in the survey were asked whether one member of staff had overall responsibility for managing performance data in their school. A slightly higher proportion of primary respondents (79 per cent) than secondary respondents (72 per cent) reported having a colleague responsible for the data. According to them, a greater proportion of primary school headteachers (49 per cent) compared with secondary headteachers (10 per cent) had overall responsibility for performance data. Just over half of secondary respondents (52 per cent) said that this role had been delegated to deputy headteachers, perhaps reflecting the different staffing structures and usual sizes of primary and secondary schools. Where the headteacher did not have responsibility for performance data, primary respondents stated that this role most frequently fell to assessment coordinators (26 per cent).

The questionnaire survey sought information on the extent of other teachers' (i.e. teachers who were not headteachers or deputies) involvement in using different types of data. In secondary schools the use of data was more widely spread among staff, with heads of year and heads of department making more use of the data than their equivalent primary colleagues. Senior managers in secondary schools were less likely to use school- or LEA-produced data than their primary counterparts. Secondary classroom teachers were also less likely to use LEA-produced data (only 24 per cent compared to 38 per cent of primary classroom teachers) and school-produced data (71 per cent compared to 81 per cent). Clearly secondary school heads of department have a crucial role in the use of performance data, and training for school middle management may need to take account of this particular aspect of a departmental role.

The results from the questionnaire survey suggested that while teachers did make use of the data that the LEA had sent to their school, LEAs were less effective in providing training and support in this area for school staff other than headteachers. Much of the training appeared to be aimed directly at headteachers, their deputies and assessment coordinators, rather than classroom teachers, who often had to rely on cascaded knowledge and skills. This finding was supported by the fact that a '*lack of training*' was identified as a difficulty by 23 per cent of primary and 29 per cent of secondary school respondents.

4. Using data for school improvement

An important part of the research brief was to uncover how performance data is used in schools. There was widespread agreement among subject coordinators completing the questionnaires and school staff and governors interviewed about the ways in which data is used: most usually for target setting, planning and review activities. Results from the survey also revealed that there was much overlap in the practical ways that primary and secondary schools used the data available to them.

It became apparent from the in-depth interviews that schools' systems for using data vary widely, from those in which data exists and is used patchily by teachers according to their personal interest and degree of skill in interpreting data, to those in which a whole-school approach has been developed over a number of years. For the most part, the schools visited as part of the qualitative data collection phase of this research had either well-developed or developing systems for the analysis and use of performance data, with only a minority experiencing such significant difficulties that they were unable (and occasionally reluctant) to encourage the widespread and routine use of data to inform school management and classroom practice.

The questionnaire survey included a number of questions asking for teachers' opinions on the helpfulness of various types of data. Primary school subject coordinators reported that the data produced in-school was the most helpful, together with key stage 1 results (with 91 per cent saying that these were either '*very helpful*' or '*helpful*').

A similar picture emerged from the secondary school questionnaire responses: heads of department found key stage 3 results most helpful (94 per cent), along with GCSE results and school-produced data (92 and 83 per cent respectively). Again, the least helpful types of data were the commercially available packages. Schools in both sectors also found the comparative data provided by their LEAs to be helpful.

It is not possible to say how the use of data has impacted upon pupil attainment without further quantitative research in this area. It would, in any case, be very difficult to disentangle all the factors, including teaching quality, school characteristics, pupil prior attainment and the effects of

various educational initiatives, that may be impacting upon pupil achievement. However, from the research carried out for this project it is apparent from the perspectives of LEA officers and school subject coordinators that there may be a number of benefits arising from the expansion of the use of pupil data over the last few years. These can be briefly summarised as follows:

- LEA–school collaboration
- increased involvement of teachers with data and analysis
- increased pupil involvement in assessment and monitoring
- transparency in educational objectives.

5. Issues and challenges

The analysis of the surveys shows that 132 (a third of those who responded) primary subject coordinators and 32 secondary heads of department (47 per cent of respondents) reported having encountered difficulties using performance data. Teachers were asked to identify those types of data which have caused them problems and to also indicate that nature of their difficulties.

Of the data packages that both primary and secondary school receive, for the most part, similar proportions of teachers, in each sector, reported difficulties with the same types of data. For example, 24 per cent of primary school respondents and 22 per cent of secondary school teachers reported having difficulties making use of their schools' PANDAs. There were also no differences in primary/secondary teachers' views of the Autumn Package and LEA-produced data. In contrast, however, only four per cent of primary school subject coordinators encountered problems using key stage 2 data, compared to almost a third (29 per cent) of heads of department in secondary schools. One reason for this may be that secondary school staff were less familiar with key stage two data (as it is transferred from primary schools) than they were with secondary-phase data.

There were some interesting findings surrounding the *nature* of difficulties in dealing with performance data. A shortage of time to use data and a lack of training on how to use performance data were reported as being the two main difficulties for both primary and secondary school staff. It was also evident from the secondary school survey that other practical problems were arising in secondary schools: just over a third (34 per cent) of secondary heads of department felt that data was not made available soon enough, 24 per cent reported difficulties with the ways in which data was presented and around a fifth complained of the lack of access to ICT facilities (19 per cent) or that they had not received *enough* performance data (18 per cent). These issues did not appear to present problems to the same extent in primary schools.

The interviews with both school and LEA staff uncovered some additional concerns about using data. There were also some differences in the issues identified by schools and LEAs. In particular, overcoming negative attitudes towards performance data was considered to be a prime concern for LEA officers, while this was not felt to be such a significant challenge for schools. The broad issues identified in the interviews were as follows:

- timing
- the need for systems for analysing and disseminating data
- the relevance and reliability of data
- lack of time to analyse and use data
- the need on the part of schools for further LEA support and training.

6. Recommendations and conclusions

Recommendations for LEAs

It was clear from the questionnaire survey responses and the interviews with senior school staff that schools were, on the whole, satisfied with and appreciative of, the statistical services provided by their LEAs. However, there were a number of suggestions from our respondents about how LEAs might be able to enhance their role in relation to the collection, analysis and dissemination of pupil performance data. These are presented below as a series of recommendations. They are not meant to be prescriptive; rather they are provided as a stimulus for discussion on how the provision of pupil performance data for schools might be improved.

- ***Consider simplifying and streamlining the presentation of data to schools***. Aim for simplicity in data collection and presentation. Ensure that data is presented in efficient and accessible ways and, additionally, try to ensure that where possible only relevant data is presented.
- ***Look carefully at the timing of the production of data packages***. To a large extent, of course, LEA officers are constrained by national time cycles of data production and target setting, but in the view of some of our teacher respondents there may be some room for improving the timeliness of data provision, support and guidance at local levels.
- ***Encourage schools to conduct dialogues and to share good practice***. Of course the drive for this may need to come from schools themselves, but LEA officers, with their overview of schools in the locality, could help: '*Sharing good practice* [in the use of data] *between strong and weak schools would help.*'
- ***Consult regularly with, and encourage feedback from, the users of your data***. There were strong signs that good practice in data provision and analysis was associated with regular feedback.

- ***Consider how best to provide (and who to target for) training in data use.*** There may be a need for more customised training on using data, targeted at middle managers and classroom teachers, as well as headteachers.
- ***Keep a focus on the 'bigger picture', on the strategic implications of school and pupil data.*** Keep a focus on quality, rather than on service.

Recommendations for school staff

Interviewees showed universal agreement in the belief that teachers and school managers were getting better at using data. As the quotations at the very beginning of this report show, LEA officers were positive about the ways in which school managers and other school staff were developing their uses and understanding of pupil data. There were, however, some variations on this theme, and a number of views about how school staff might improve their use of data emerged from the research findings. Again, these are presented as ideas for consideration and discussion rather than as prescriptions for '*success*'.

- ***Spread data analysis responsibilities and tasks throughout the school.*** It seems that, in the view of many of our respondents, involvement in the use of performance data, to some degree, should permeate all levels of a school staffing structure.
- ***Encourage intra- and inter-school collaboration in data analysis and use.*** School management teams may wish to consider possible ways of providing the space, time and mechanisms required to allow teachers and departments to talk to each other. It is also clear that schools can learn a good deal from each other about best practice in using and acting upon performance data.
- ***Consider (further) involving pupils in planning their own targets and achievement levels.*** Obviously such involvement needs to be kept simple and relevant, but the resultant dialogues between teachers and pupils help the latter to focus and to see the objectives of their work.
- ***Keep in mind the whole picture of pupil performance.*** Many respondents were at pains to stress that although pupil performance data is highly important, it constitutes just one part of the context of raising achievement levels and improving educational outcomes. Teacher interviewees, particularly, emphasised the fact that they need to continue to use their professional judgement, intuition and hunches, as well as objective performance data.
- ***Encourage action on data, as well as accessibility.*** Several respondents made the point that it is no good just looking at data; you need to act upon it. Teachers need to be given time to consider and reflect upon data, to plan who they are going to target and how they are going to act upon the data.

Conclusions

The interviews conducted for this research pointed to widespread agreement among school staff that analysing and using performance data are important elements in their annual cycle of work. However, interviewees were also keen to place the use of data in its wider context, seeing it as one part of the picture of their schools' performance and as one way of assessing their schools' strengths and weaknesses. They were concerned not to place too much emphasis on examination results and test scores at the expense of other aspects of children's wider educational development and experiences.

Despite these justifiable words of caution, the great majority of school and LEA interviewees were positive and enthusiastic about the use of pupil performance data. LEAs were developing increasingly sophisticated data analysis packages and school staff were becoming more and more confident with using data and setting targets. It is probably reasonable, given the extent of change in this area in recent years, to describe these developments as a kind of '*revolution*'. But the revolution is not yet over; indeed it is likely to continue for some time yet. It was clear from the attitudes and comments of our respondents that, in their view, the use of pupil performance data to improve educational outcomes is not something that is going to go away in the near future.

1. INTRODUCTION

Ten to 15 years ago, by all accounts, LEA and school use of data was limited. Teachers would commonly look across the pages of their mark books for pupil classwork grades, homework grades, effort grades, test scores and examination results. Predicted grades might also have been written into one of the columns of the mark book. Now, in an age of target setting, development planning, regular national testing, electronic spreadsheets, pupil databases and optional commercial packages that can help teachers to look for and identify pupil underachievement, things have changed dramatically. Teachers, school managers and LEA personnel have had no choice but to develop their understanding and skills relating to the collection, analysis and use of pupil performance data.

1.1 A revolution in the use of data?

'There has been a revolution in the use of data... [now] *any teacher will be aware of what is happening... data supports intuition.'*

'There has definitely been a revolution. The amount of data has exploded!'

'There has been a cultural shift in the use of data. Nowadays every one of our schools makes good use of data.'

'Teacher understanding has improved considerably recently... a few years ago there was a huge amount of work to be done.'

'We are fortunate in that they [now] *do a lot of data collection for us... We now have a standard pattern of analysis. Teachers are more confident with data.'*

'Schools' use of pupil data is now widespread... they're pretty familiar with the collection of data and much better now at interpreting the data.'

These statements were made by senior officers in local education authorities (LEAs) who were being interviewed about the ways in which pupil performance data is being used by LEAs and schools. These particular quotations reflect LEA officers' generally positive perceptions of how school staff are making use of pupil performance data.

Does this constitute a revolution in the use of data? Two of the interviewees quoted above thought so and a third talked about a '*cultural shift*'. If there has been a revolution it has not been a simple, straightforward one, but there can be no doubt that major changes, stimulated by the raising attainment and target-setting agendas that have been promoted at national, local and institutional levels, have indeed occurred in this area of schooling.

This report considers the extent and the impact of these changes. It is based upon the views of LEA officers and school staff who, often on a daily basis, make use of pupil performance data in an attempt to improve the educational outcomes and experiences of children in their schools.

1.2 Background and aims

The project reported on here was supported by the Local Government Association (LGA) Educational Research Programme. It has investigated how LEAs collect and use school and pupil performance data.

Underlying these issues is the changing role of the LEA with regard to school improvement and the use of pupil data. Since the introduction of the 1998 School Standards and Framework Act, LEAs have been required to produce an Education Development Plan (EDP) which includes LEA and school targets for improvement and a school improvement programme.

An important aspect of the responsibility LEAs have for school improvement is the establishment of systems for monitoring the educational achievement and progress of schools across the LEA, individually and of specific groups of pupils. The response of LEAs to this Act has largely been to produce detailed pupil datasets, but also to encourage and support schools in processes of self-evaluation. These processes require relevant, detailed, good-quality data at school and pupil level.

Of course the LEA is not the only source of data for schools. The Autumn Package, PANDA reports and the School and College Performance Tables are also used, to varying extents, as are commercial packages such as PIPS, MidYIS, Alis+ and Yellis.[1] However, it is clear that the great majority of schools need and indeed actively make use of the statistical support of their LEAs:

> *Although all schools should have access to national performance and benchmark data, there is an expectation on LEAs to prepare and provide wider benchmark data in order to help schools*

1 PANDA is the acronym for a school's Performance and Assessment report. PIPS stands for Performance Indicators in Primary Schools, a commercial service for schools offered by the Curriculum, Evaluation and Management Centre at the University of Durham. The Centre provides a number of value-added statistical services, including MidYIS (Middle Years Information System), Yellis (Year Eleven Information System) and Alis+ (A-Level Information System plus GNVQs).

> *compare themselves more effectively with other schools in the LEA. According to the White Paper* ***Excellence in Schools****, these data should be presented in a form that is easily accessed and understood for use with target setting* (Derrington, 2000, p.61).

This report presents a picture of what was going on in LEAs, in terms of data collection, analysis and use, how schools were using this data, what the relationship was between LEA data production and schools' use of this data, and how all of this was perceived to be contributing to the improvement of pupil attainment levels.

The aim has been not only to explore and map out the role of LEAs in data collection, analysis, dissemination and use, but also to try to assess how that service has contributed to strategies at LEA, school and subject leader levels for raising attainment. This required consideration of:

- how well LEAs have been preparing and feeding back to schools data that will help school management teams to identify and address underachievement;
- how effective LEAs have been in meeting the needs of schools in terms of presentation of data, training in data use, timing and so on;
- how LEA support for schools has been managed and how the data has been made available by LEA research and statistics staff so that it can be accessed, understood and used effectively by schools, advisers and other LEA personnel.

Other central aims of the project have been, firstly, to promote a better understanding of the key issues and problems associated with the use of performance data in different contexts; and, secondly, to identify examples of good practice for LEAs and schools.

1.3 Methodology

In order to construct a picture of how pupil data was being used by LEAs and schools, a number of methodological approaches were adopted, including:

- documentary analysis;
- in-depth interviews with LEA personnel, school senior managers and school governors;
- a questionnaire survey of school subject area leaders in English, mathematics and science.

It was not possible to implement these approaches across all local education authorities, so eight LEAs were chosen for in-depth study, to represent a range of geographical and socio-economic contexts. To select the eight LEAs, the following process was utilised:

- The research team visited the NFER's Educational Management Information Exchange (EMIE) database to seek out LEA documents to do with the collection and use of pupil data: enquiries at the EMIE service helped in identifying which LEAs were particularly active and well established in this area of work.
- Potential LEAs for study were then put together in a long list which included divisions by region and by local authority type: this helped to ensure that there was a good geographical spread (one LEA for each region identified, plus two for London) and a range of LEA types (metropolitan, shire and unitary authorities).
- Letters were sent to eight of these LEAs asking if they would be willing to assist with this project: six positive responses were received – a further two reserve LEAs from the list were recruited to make up the eight authorities needed.

There were three shire counties (mainly rural, but with small towns and some areas of social deprivation), three urban authorities (two of these were London boroughs), one relatively small county that included an urban-rural mix, and one small, relatively new unitary authority. The smallest of the LEAs featured contained about 50 schools and the largest had over 350 schools. The proportions of ethnic minority pupils in these areas varied from around two per cent to 40 per cent and there was a similar range in eligibility for free school meal (FSM) percentages. Interviewees were given an opportunity to mention any important local contextual characteristics, such as high pupil mobility, the presence of grammar schools, or a local tradition of moving into employment at age 16, and these are identified at the relevant points in this report.

Documentary analysis

Many of the LEAs also provided documents on their context and on the services provided for their schools. Documentary analysis included examination of policy and planning documents, such as Education Development Plans and School Development Plans, along with data and information packages provided by LEAs for schools.

In terms of this study, the most important document was usually the annual data or performance package provided by the LEA for the school. These packages often made use of national data provision, but also included local contextual information such as '*families*' of schools, or schools grouped on the basis of free school meal ranges, so that local comparisons could be made and targets could be set in the context of specific local factors and conditions. Further details of these packages and how they were used are provided in Chapter 2.

In-depth interviews

In-depth, semi-structured interviews were carried out with LEA senior managers, school governors and senior school staff responsible for the use

of data in their schools. Fifty-eight individuals were interviewed. This enabled the research team to make use of the detailed perspectives of those who were experienced in this field and who were '*at the sharp end*' of using data, day by day, to identify pupil underachievement and to raise attainment levels. **Appendix A** summarises the pattern of interviews carried out.

Once the LEAs had agreed to participate, interviews were set up with the senior officers responsible for overseeing the collection and use of pupil performance data. In some cases, there was one clearly identifiable person with responsibility for these tasks, but in others, the responsibility was spread between two, three and even four people. In total, 20 LEA senior officers were interviewed. The job titles of these interviewees ranged from Director of Education, through to Head of Research and Statistics, Head of Information, and School Improvement Adviser. The interviews lasted between 40 minutes and one-and-a-half hours. The broad topics covered included the following (see **Appendix B**):

- the LEA context
- pupil performance patterns
- the production of data
- the use of performance data.

Further, up to four schools were visited in each LEA, usually two secondary and two primary schools. These institutions were selected in consultation with LEA staff. Researchers stressed that they wished to visit not only schools that were very good or confident at using data, but also schools that may have had some difficulties in making use of LEA data provision, where staff may have raised important issues to do with data use, or were relatively new to such processes.

The schools were contacted by letter and, subject to their agreement, interviews were set up with the headteacher and any other members of staff closely involved in the collection and use of pupil data. Usually, the relevant member of staff was the headteacher in primary schools and a senior teacher or deputy headteacher in secondary schools, though there were some variations in this pattern. Altogether, 38 staff from 27 schools were interviewed, including headteachers, deputy headteachers, key stage coordinators, heads of department and school governors. These interviews normally lasted between 40 minutes and one hour. The broad topics covered included the following (see **Appendix C**):

- the school context and background information
- collecting performance data
- provision of performance data
- using performance data
- support from the LEA
- the impact on pupil performance.

The questionnaire survey

As part of the interview process, researchers sought permission from officers in the eight LEAs to approach schools with a questionnaire survey. In all cases this was agreed. It was not possible to survey all the schools in an LEA area, so a random sample of schools was selected. Since this was a random sample of all local authority schools within an area, primary schools were predominant in the sample. This numerical predominance was maintained because the research team felt that the use of data in, and the provision of statistical information for, primary schools had been under-investigated prior to the present project. Whilst the use of pupil data, including the use of value-added information, was fairly well established in secondary schools, it was reasonable to say that less was known about these topics in primary schools.

A questionnaire for school coordinators in the three core subjects of mathematics, English and science was devised. Slightly different versions were used for primary school subject coordinators and secondary school heads of department (see **Appendices D and E**). Both questionnaires consisted of three sections:

- *Section A:* You and your school
- *Section B:* Using performance data
- *Section C:* The support and training you receive.

There were some slight differences in wording and some different tick-box statements, based upon the fact that primary and secondary schools would use different types of data and differing terminology relating to the key stages, but on the whole these two questionnaires were directly comparable. This provided the option of looking at the survey results either by phase or across all teacher respondents, primary and secondary. Full details of survey respondents by phase are as shown in Table 1 below.

Table 1. Details of questionnaire surveys in eight case-study LEAs

	Number of schools contacted	Number of questionnaires sent	Number of schools responding	Number of questionnaires returned
Primary schools, subject coordinator survey	343	1029	200	400
Secondary school, of department survey	57	171	36	68
Primary and secondary school totals	400	1200	236	468

Response rates from schools, based upon the number of schools returning at least one questionnaire, were 58 per cent (primary schools) and 63 per cent (secondary schools). Response rates for individual teacher returns were 39 per cent and 38 per cent respectively.[2]

Although the number of secondary respondents was relatively low, and any statements made upon the basis of the secondary sample alone *need to be treated with caution*, the overall number of respondents was encouraging, given circumstances at the time the questionnaires were sent out, and this has been one of the largest, most detailed surveys ever carried out in relation to LEA and school use of pupil data.

1.4 Structure of this report

At all stages of the presentation of these findings, the evidence has been presented, as far as possible, via the '*voice*' of our respondents. The questionnaire responses from subject coordinators and the interview comments of senior school and LEA staff form the core of evidence for this report. The research team was aware that if the findings described here were to be of any practical use, than it was important that the concerns of those people who use data on a regular basis should be fully addressed.

This project looked at data and processes of analysis that were, at times, very complicated and highly technical. There were also several layers of activity of data use: from national cohort data, down to LEA-level data, school- and departmental- level information and pupil-level data. In order, however, to keep the presentation of the project's findings as straightforward and direct as possible, the report pulls together the information obtained from various sources with a view to answering a number of basic questions:

- ***what data is used?***
- ***who uses the data?***
- ***how is the data used?***
- ***what works (in terms of data use)?***
- ***what are the main challenges and issues (in terms of data use)?***
- ***how could the use of data be improved?***

2 There were several possible reasons why response rates were, in some respects, lower than might have been expected. Although efforts were made to keep the questionnaire as short and as simple as possible, the use of performance data is a complex area, and the level of detail contained in the questions may have prevented some respondents from completing it, especially given the work commitments of subject coordinators. Also, the questionnaires were sent to the headteacher, who was asked to distribute them to the three relevant subject coordinators or heads of department, and, inevitably, some of the questionnaires would have been 'lost' in this process. It should also be noted that, at the time of the survey, some teacher organisations were in dispute over the amounts of paperwork and 'bureaucracy' they had to contend with. The research team are, of course, very grateful to those departmental managers who did find the time to complete the questionnaires.

Subsequent chapters deal with these questions, as outlined below:

- Chapter 2 examines, specifically, how LEAs put data packages together, what systems they use, and how the data is analysed and disseminated to schools.
- Chapter 3 looks at the types of data used in schools and asks 'who uses the data?' This chapter also examines teacher perspectives on the support and training in data analysis provided by LEAs.
- Chapter 4 progresses this approach by asking 'how is the data used?' What are teachers' attitudes towards the use of data and what constitutes good practice in this area of support for school improvement?
- The use of data for these purposes is never unproblematic and Chapter 5 presents some of the issues and challenges that arise during these processes. What are the main difficulties and how might these be resolved?
- Finally, Chapter 6 summarises the findings, suggests where the main areas for improvement might be and makes a number of recommendations for consideration by LEA and school staff. It also stresses the importance of seeing data as just one element, albeit an important one, in school improvement processes.

2. THE LEA ROLE

This chapter looks at the role of the LEA in data collection, analysis and use, as described by our interviewees in the eight featured LEAs. Details are provided of how LEAs analyse data and how they disseminate this information to schools. Key areas of success, in terms of using data to raise pupil attainment, are identified, along with areas where, in the opinion of our respondents, more and better use of data could be made. There is also consideration of what support LEAs offer to schools, in terms of guidance, leadership, information and training.

This chapter takes an LEA perspective: it should be read in conjunction with the following chapter, which looks at these activities from the perspective of school managers, the people who receive and may have to act upon LEA pupil performance data.

2.1 Systems for collecting, analysing and disseminating data

There was, of course, considerable variation in the ways in which these LEAs collected, analysed and disseminated pupil performance data. If there was a standard pattern, it was something like that presented in the following case-study example.

Case study: a 'typical' pattern of data collection and use

One of the larger authorities, which has a very good reputation for its collection and use of pupil performance data, had what might be described as a 'typical' process for collecting and feeding back data to its schools:

- where necessary, the relevant data is collected from schools and national sources;
- the LEA turns this data into a '*school profile*' or an '*annual statistical profile*';
- the profile is sent to schools in the autumn term: it includes individual pupil data, benchmarking information, and value-added data;
- guidance notes and '*key questions*' for schools to ask are included in the package;
- visits are made to schools, by link inspectors, to assist with data interpretation and target setting (using the five-stage cycle of target setting);
- short training courses in data use are provided for headteachers and school senior managers; there may also be an annual school improvement conference;
- the relevant statistician/manager deals with school enquiries on a regular basis; he or she will answer telephone enquiries and may also make individual school visits.

Across LEAs, there are some variations in the stages of this process, depending upon local needs, LEA structures and the level of progress made in the use of data in recent years. Having said this, the broad pattern of activity presented above was in use in most of the LEAs featured in this study and it would not be unreasonable to say that this represents a standard approach to data collection, analysis and use.

The first stage of the process described above, collecting the data from schools, seemed to be relatively unproblematic from the perspective of the LEA officers interviewed. There had previously been some issues about key stage 2 to 3 transition data, but these appear to have been resolved. There were also a few issues about how best to collect the data, in a technical sense. Most of the LEAs were developing electronic systems for the collection of data, and respondents reported that this made the whole process easier for both schools and LEAs.

All the featured LEAs made use of national datasets, or commercial packages, during this process. At least some schools, in most of the LEAs featured, made use of PIPS, QCA test scores, standardised reading test scores, MidYIS, Yellis or Alis+, or NFER-NELSON Cognitive Ability Test (CAT) scores. One LEA paid for CATs in all its schools for Years 4 and 7. In practice, however, relatively small proportions of schools '*bought in*' these packages, suggesting that they were moving towards a greater reliance on, and appreciation of, local authority information and packages. Many LEA officers made use of PANDA reports, levels obtained in national tests, and the Autumn Package, but it was very clear that schools needed a localised, customised package that went beyond the limitations and general contexts of these national information sets.

The second and third stages of the process, providing some sort of school profile, were evident in all the LEAs featured, though different names were given to the document that was sent to schools in the autumn term. The length of such documents varied from around 20 pages to over 100 pages. It was evident that there were very strong time pressures on LEA staff as they went through the process of turning data into intelligible school profiles. One LEA officer commented that '*August to October is frantic. It feels like a tremendous rush between getting data in and getting data out quickly enough to be of use in the current school year*'.

Case study: the usefulness of the school profile

School staff were, on the whole, very happy with the profiles or packages provided by their LEAs. The head of statistics in one of the authorities described the process of putting together such a package in more detail.

The relevant data is entered into spreadsheets by LEA administrative officers. A school report, with explanatory notes, is then produced which includes the following comparisons:

- comparisons against the national average;
- comparisons against the LEA average;
- comparisons with other schools in 'school families' within the LEA.

The two LEA-based comparisons were seen as important because of special contextual factors relevant to this LEA, including high FSM figures, high rates of pupil mobility and high proportions of ethnic minority pupils. It is partly because of this context that value-added data was crucial: '*The LEA gives schools a clear understanding of value-added data... we need to know where we're taking children. Making fair comparisons is important for strategic planning.*' (All but one of the eight LEAs featured provided value-added data to schools. Five of these had, at least initially, worked with leading academics in the field to produce value-added data. Usually the production of value-added data involved making adjustments based upon pupils' prior attainment and some indicator of socio-economic status, such as the free school meals percentage.)

In this authority the school profile, as in several of the LEAs featured, acts as a starting point for discussions between school managers, LEA advisers and research and statistics staff: '*It helps them to ask questions and leads to an action plan.*' In this authority, one-third of the head of statistics' time was devoted to making school visits. He was also available to answer school telephone queries.

All the LEAs issued guidance notes of some sort (though one used a bought-in document rather than its own customised package) and made help available from the statistics or advisory team. This stage of the process is particularly important, because the meaningful and successful use of pupil performance data depends very much upon school–LEA relationships. Some of our respondents stressed that it is important that all the data is reported in a clear, simple way and that school staff should have ample opportunity to discuss the implications of their school profile with the relevant LEA staff: '*This is very much a process, a discussion.*'

Evidence presented in the next chapter shows that school staff had, on the whole, a high degree of satisfaction with the data packages and statistical services provided by their LEA. For example, the results from our survey of primary subject coordinators showed that 93 per cent found the guidance given by LEAs to be '*helpful*' or '*very helpful*' (see Section 3.4 below).

Of course, as has already been noted, LEA officers do not just rely upon their own customised data services; they also have access to national data sources, such as the School and College Performance Tables and the Autumn

Package. Where possible, during the course of the interviews, the researchers asked '*How useful are national datasets?*' Responses to this question were somewhat mixed and issues of timing predominated, as the following examples show:

- On **PANDAs** (Performance and Assessment reports), one respondent said 'PANDAs are useful', but another indicated that '*PANDAs come too late for target setting... To some extent the LEA is at the mercy of national timetables*'.
- The **Autumn Package**, said one interviewee, '*is helpful*', but another commented that it '*is not sophisticated enough: 85 per cent of our primary schools fit into two FSM categories. This is why we started to provide data ourselves*'. Timing was again an issue: '*The Autumn Package comes out too late.*' It is '*very useful... It's a shame it doesn't come sooner*'.
- There was some praise concerning national guidance on target setting, and **the five-stage cycle of target setting** promoted by the DfEE (and DfES) was frequently mentioned. This cycle of target setting was explicitly used by four of the LEAs. One respondent said that '*we use this cycle, particularly the fifth stage, to make things happen*'.

2.2 Key areas of success

LEA senior officers were asked, in relation to pupil performance patterns, '*What are the key areas of success and under-performance in the LEA as a whole?*' The aim here was not to explore the performance of the LEA itself, but to try to find out more about the performance of pupil groups within the LEA's schools. This question provoked a good deal of thought and comment, and responses are considered here (perceived areas of success) and in the following section (perceived areas of weakness).

The openness of this question allowed for a variety of types of responses. Interviewees could identify success across key stages or age groups, for particular types of pupils, across subject areas or in terms of LEA services. Most talked about the first set of categories, key stages or age groups. In three LEAs, respondents emphasised success with key stage 1 pupils: e.g. '*we've had a steady and continued slight improvement at key stage 1*'; in another three, the emphasis was on key stage 2: '*our KS1 and KS2 results are good. We feel that we've made very good progress. We have improved relative to the national norms and in relation to our statistical neighbours*'; and two stressed the importance of success at key stage 4. Of course, mention of one particular key stage phase did not mean that there were no manifestations of improvement in other phases.

With respect to key stage 4, one statistics officer in an urban authority said that the numbers achieving five A* to C GCSE grades had improved by two to three per cent each year, compared to one per cent nationally: '*There is evidence to show that a difference is being made.*' Another officer was pleased that GCSE results in her LEA were better than the national average, especially as this was an area where there was still a problem of '*how education is valued...there is a prevailing attitude among pupils that "I'll get a job anyway"*', but also recognised that there was a problem of variation or polarisation between schools, i.e. there were large differences in school rates of achieving five or more GCSEs at the higher grades.

At the time the research was being carried out, a perception of a '*dip*' in the performance of 11- to 14-year-olds was developing, and policy makers were turning their attention to this age group. Interestingly, in our study, no LEA respondent specifically picked out key stage 3 as an area of success, and several said that they were in the process of turning their attention to this phase. This could be coincidence, but it may also be that these LEAs were experiencing difficulties that reflected national patterns of pupil performance: '[Our LEA] *is big enough to reflect national patterns, but it is also self-contained. You'd see this in most LEAs. We're better at primary than our neighbours* [but not so strong at KS3]. *We do make a difference.*'

Other success areas identified included subject or curriculum areas such as '*reading*', '*ICT*', '*numeracy and literacy*', '*science*' and pupil groupings such as '*minority ethnic groups*'. Each of these was mentioned in one LEA.

Three of our senior respondents chose, in their replies, to place a more general emphasis on the LEA's services, particularly on their provision of data for schools. One said: '*We are information rich... we have a wonderful base, a really comprehensive picture* [and] *research work is spectacularly good.*' Two of these respondents stressed success, within the broader provision of data, in terms of the value-added work being carried out within their authority.

Four of the eight LEAs had been inspected by OFSTED at the time of the fieldwork, and some respondents quoted positive comments from OFSTED about the work of their research and statistics departments.

The strengths of the LEAs, then, were perceived to be in the general provision of data, including value-added information, and in addressing the needs of particular phases, subjects or groups of pupils. The LEA role consisted of general statistical support along with particular activities and programmes for addressing the underachievement of particular subjects or groups of pupils.

2.3 Perceived areas of underperformance

When asked about possible weaknesses, within the LEA area as a whole, as revealed in data relating to pupil performance, most respondents, again, talked about particular key stages or subjects. Key stages 2 and 3 received much attention. Key stage 2 underperformance was identified in five of the eight LEAs: '*The data suggested that there was a need for more work at key stage 2. This shows the power and usefulness of data.*'

Sometimes particular subjects at KS2 were identified, including English (or literacy) and mathematics. In some areas, there had clearly been a drive on key stage 2, and these authorities were now turning their attention to key stage 3. In others, the emphasis was still on older primary school pupils, perhaps with a focus on literacy or reading. In one of the LEAs featured, the statistics officer felt that there was underperformance in KS3 mathematics because of a previous concentration on reading in this age group: '*Partly as a result of concentrating on reading in primary schools, teachers took their eye off the ball in relation to maths.*'

Several LEA respondents mentioned difficulties with transition data (from KS2 to KS3), but most of these were to do with minor technical difficulties. It seemed that the difficulties that were previously occurring with the passing on of information from primary to secondary schools were now being ironed out.

The head of statistics at one of the larger authorities provided an excellent summary of what had been happening with respect to this type of transition data: '*a few years ago there was a huge amount of work to be done*', but the use of data in this area is now '*much improved*' and schools have made a '*huge leap*' in this respect. There is still, however, '*variable usage*' of transition data, for example, some secondary schools still retest to set groups in Year 7, despite Year 6 testing.

In four of the LEAs featured, as might be expected from comments made in the previous section and reflecting national patterns at the time the interviews were carried out, underperformance was said to be occurring at key stage 3:

'*KS3 is an area of renewed focus*'

'*there has been a dip in KS3 which we are seeking to improve*'

'*we have specifically looked at KS3, trying to coordinate initiatives*'.

There was limited discussion of possible underperformance at key stage 4, and where this was mentioned it was usually related to departmental performance or variability in the performance of schools within an LEA: '*The LEA is looking for weak departments at key stage 4. There is usually a particular problem. We use raw analysis versus residual analysis. This allows for the calibre of pupils... There is always going to be concern about some departments.*'

Two interviewees expressed concern about differences in the performance of ethnic groups and indicated that this area would be receiving attention: '*There were some interesting differences in ethnicity.*' A further two mentioned gender differences, suggesting particularly that boys were underachieving in English. In general, however, differences between age groups featured much more heavily in the interview discussions than ethnic or gender differences, and this probably indicated that, in some LEAs at least, the latter types of differences had already been receiving attention, though there was always more work to be done in these areas.

One respondent mentioned the need for '*more work on pupil mobility*', and another stressed the need for information on '*looked after children.*' Finally, one school improvement manager, in a recently created unitary authority (see the case-study details below), used the question about areas of success and underperformance to elaborate on the general weaknesses of her authority's data collection processes.

Case study: developing the use of data in a small, 'new' LEA

Patterns of data collection, analysis and use in this unitary authority largely reflected national patterns. In recent years, attention had been focused on literacy and numeracy in primary schools and improvements had been made in these areas. Now the focus was shifting to underperformance in secondary schools, especially at key stage 3.

To cope with the increased need for data collection (and subsequent action), this LEA had reorganised its services and had set up a School Improvement Team which included LEA officers and advisers. The head of this team, however, was worried about the '*school improvement label*'. The label suggests '*that other people do not have that role*', when in fact school improvement responsibilities should be spread right across the LEA's services because of the need for two-way relationships (with schools) and coherence.

This particular interviewee admitted that '*we're a little behind other authorities in terms of data analysis and the management of data*'. This was undoubtedly partly because this was a relatively new authority (created in 1997) and partly because it was a small authority, with only one person dealing directly with school performance data.

This was the only authority in the eight featured in this study which:

(a) had not yet made detailed use of value-added data;

(b) did not use individual pupil data; and

(c) did not use its own data package, but bought one in from outside. Having said this, it was, at the time the research was being carried out, working very hard to make changes in line with what the more established LEAs were doing. It may well be that the experiences of this authority were common to many of the new unitaries.

2.4 Leading and supporting schools

Since the introduction of the Education Act 1997 and the School Standards and Framework Act 1998, LEAs have had to redefine and redevelop their roles in relation to schools and school improvement. Some issues have arisen in relation to the need to achieve a balance between leading schools and supporting them. LEAs provide support in the sense that they make pupil data available and can offer training and professional development in this area, but to what extent should they also intervene and challenge and direct schools? For many LEAs, the provision of data was seen as a general, universal role: all schools need this data. Intervention in schools, usually in '*inverse proportion to success*', was more specific, more proactive and required leadership from the LEA.

When LEA officers were interviewed, they were asked: '*Where has the lead come from on school improvement/raising attainment in the LEA?*' In five of the LEAs featured, the main impetus seems to have come from the Chief Education Officer or equivalent. One respondent, for example, stated explicitly that leadership came from '*the CEO – he joined the LEA in the mid-1990s, with a strong school improvement agenda*'. Another stated that his authority's new Director was taking a lead, but the previous Director had also been '*very strong – she had a vision. She worked hard over a short period of time*', she had '*a clear focus on school improvement*'.

In the three other areas, it was stressed that the LEA, or more specifically, teams or combinations of teams within the LEA, usually including advisers or a 'school improvement' section, had led the way in setting up and using systems for improving pupil performance through the use of data: '*No one individual – we've had teams for raising achievement.*' Often, as in the case-study example given below, the LEA team used performance packages, and changes in the dissemination of these, as a '*way in*' to schools, as a way of keeping school staff aware of the developing use of performance data and trends in target setting.

Case study: a history of LEA leadership in school improvement

One of our interviewees, a head of research and statistics, described the various stages of giving data prominence and of '*challenging*' schools to improve:

- In the early 1990s, when reading scores were low, particularly in primary schools, he took over the *Curriculum and Assessment* division of the LEA and began a two-year reading project using a standardised reading test to assess progress.
- In 1993, a new CEO was appointed and schools were asked to audit what they did in terms of data use. There was a need, said this respondent, to keep schools interested in using data, and the LEA developed a value-added package with a leading academic in the field. The authority knew that schools wanted this information, but they could also use it as a '*way in, a Trojan horse*'.
- In the mid-1990s, again as part of the ongoing drive to challenge schools, the LEA decided to benchmark schools using prior attainment scores and to put them in family groups. There was resistance to schools being named at first, but this soon became standard practice.
- Two years later, target setting, which provided a new but important angle on the use of pupil data, was introduced '*to keep the ball rolling and avoid initiative wilt*'. In 1998, a further impetus was provided by the need for the LEA to produce an Education Development Plan, which had to build upon individual school targets.

It should be stressed that in all these authorities, including those where an individual was perceived to have led school improvement processes, there was an emphasis on *dialogue* between the schools and the authority when it came to the detail of working with pupil performance data. This is an area of LEA provision for schools which, perhaps more than any other, requires a considerable degree of consultation and collaboration. LEAs may be in the best position to collect data and to present data in standardised formats to schools, but schools and teachers have the responsibility for taking action and making the changes necessary for real improvements in pupil performance.

3. SCHOOLS' USE OF DATA: THE BASICS

This chapter examines the ways in which schools were making use of performance data. Particular consideration is given to teachers' preferences regarding types of data and their views of the support and training provided by LEAs. Many of the findings summarised in this chapter are based on the school questionnaire survey results, with additional illustrative material drawn from the qualitative interviews carried out with school staff.

3.1 What kinds of data are used?

In the current climate of setting targets to raise attainment, schools collect and generate much pupil performance data for themselves. However, in addition, they receive much, often quite complex, performance data from national sources, LEA school improvement or research and statistics sections, and perhaps external, commercial organisations. The research team were interested to discover which types of data schools used, which they preferred, whether there were any differences between primary and secondary schools in data use and, in particular, what types of data their LEAs provided for them.

Survey respondents were asked '*Which ... types of performance data are used to analyse performance in your school?*', and a list of data types was provided, as shown in Tables 2 and 3 below. It can be seen that both primary and secondary schools reported using a whole range of data packages:

- not surprisingly, school-produced data was very frequently used (94 per cent for primary coordinators and 91 per cent for secondary heads of department);
- key stage results were reportedly widely used by the majority of schools. However, a smaller proportion of primary coordinators made use of their key stage 2 data (73 per cent), compared with key stage 1 data (96 per cent), or with secondary schools' use of key stage 2 results (93 per cent of departmental heads);
- PANDA reports were well used by schools, with 95 per cent of primary and 85 per cent of secondary school respondents indicating use of these reports;

- the Autumn Package was used by 70 per cent of primary subject coordinators and 72 per cent of secondary heads of department;
- the survey findings also indicated that LEA data was being widely used in both sectors: 90 per cent of primary and 81 per cent of secondary school respondents reported using LEA-produced data; the slightly lower secondary proportion may reflect the fact that secondary school staff, with larger departments and probably a longer history of data availability, may in some cases be slightly more experienced in independent data use than their primary school counterparts;
- although the majority of primary schools (82 per cent) reported using baseline data and 84 per cent of secondaries used CAT scores, there was less widespread use of other commercial tests such as Yellis and MidYIS, and respondents were more likely to express uncertainty as to whether or not the latter were used in their school; for example, 27 per cent of primary school respondents were unsure whether PIPs were used to monitor pupils' performance in their own institution.

Table 2. Types of data used in primary schools

Types of Data	Used %	Not used %	Unsure %	No response %
Key stage 1	96	1	–	4
PANDA	95	1	3	1
School-produced data	94	<1	2	4
LEA-produced data	90	1	6	3
Baseline tests	82	10	2	7
Key stage 2	73	14	–	13
Autumn Package	70	2	17	11
PIPS	13	26	27	34
Other	24	4	5	67
N = 400				

Due to rounding errors, percentages may not sum to 100

Table 3. Types of data used in secondary schools

Types of data	Used %	Not used %	Unsure %	No response %
Key stage 3	97	3	–	–
Key stage 2	93	4	2	2
School-produced data	91	–	3	6
GCSE results	91	7	2	–
PANDA	85	3	9	3
CAT scores	84	6	7	3
LEA-produced data	81	–	13	6
Autumn Package	72	3	19	6
Yellis	29	34	16	21
MidYIS	16	37	21	27
Other	13	2	3	82
N = 68				

Due to rounding errors, percentages may not sum to 100

In summary, then, the questionnaire responses indicated that schools made widespread use of a variety of data forms. Prominent amongst these were school-produced and LEA-produced data. If the degree of school use of data is a measure of the importance and relevance of information, then it is clear that the work that LEA officers put into the production and analysis of pupil performance data is generally a good use of LEA time and resources.

LEA data frequently included local and national comparisons in some form. The local comparisons were particularly important to schools because these showed how they were performing in relation to their neighbouring institutions: they also allowed for school averages to be set against the LEA average. Tables 4 and 5 below show that comparisons between schools within the LEA area nearly always featured in LEA-produced data packages: 96 per cent of primary respondents and 90 per cent of secondary school respondents indicated that this type of comparison was provided by their LEA.

Table 4. Broad types of data provided by the LEA for primary schools

Types of data	Yes %	No %	Unsure %	No response %
Comparisons between schools in the LEA	96	–	2	2
National comparisons	91	1	6	2
Data for cluster groups	55	12	20	13
Other	9	2	9	81
N = 400				

Due to rounding errors, percentages may not sum to 100

Table 5. Broad types of data provided by the LEA for secondary schools

Types of data	Yes %	No %	Unsure %	No response %
Comparisons between schools in the LEA	90	–	9	2
National comparisons	71	2	18	10
Data for cluster groups	53	4	31	12
Other	3	–	10	87
N = 68				

Due to rounding errors, percentages may not sum to 100

National comparisons were more likely to be provided for primary schools (91 per cent of respondents) than secondary schools (71 per cent), probably reflecting the fact that secondary schools are likely to have had opportunities to develop a greater familiarity with national data and there was probably, therefore, less need for the LEA to help with this particular form of comparative data.

There was some uncertainty, on the part of our school respondents, as to the question of whether or not their LEAs produced information about the relative performance of schools within the same '*cluster*' or '*family*' groups. A fifth of primary respondents and just under a third of secondary respondents were unsure as to whether such data was provided.

Of course the provision of data is not quite the same as *using* information, nor is the information guaranteed to be helpful in the running of a school or a subject area. Consequently, the questionnaire survey included a number of questions asking for teachers' opinions on the helpfulness of various types of data. One question asked '*How helpful have you found the following types of data?*', with respondents being asked to look at a list of data types and to tick a box based upon the perceived degree of helpfulness of that type of data (see Tables 6 and 7 below).

Table 6. Helpfulness of data for primary school respondents

	Very helpful %	Helpful %	Unhelpful %	Very unhelpful %	Not used %	No response %
KS1 results	45	46	4	1	2	3
KS2 results	37	34	1	1	13	15
PANDA	22	53	11	2	9	4
Autumn Package	16	41	4	1	23	16
LEA-produced data	31	52	3	1	7	8
School-produced data	59	32	1	<1	3	5
Baseline tests	33	39	5	1	10	12
PIPS	5	6	–	–	34	56
Other	11	6	–	–	7	76
N = 400						

Due to rounding errors, percentages may not sum to 100

Table 7. Helpfulness of data for secondary school respondents

	Very helpful %	Helpful %	Unhelpful %	Very unhelpful %	Not used %	No response %
Key stage 2 results	35	47	10	–	2	6
Key stage 3 results	53	41	4	–	–	2
GCSE results	60	32	3	–	3	2
PANDA	24	44	12	–	12	9
Autumn Package	24	41	6	–	7	22
CATs scores	35	37	4	4	9	10
MidYIS	2	12	2	2	32	52
Yellis	6	16	3	2	32	41
LEA-produced data	22	50	6	–	6	16
School-produced data	46	37	3	2	2	12
Other	9	2	–	–	3	87
N = 68						

Due to rounding errors, percentages may not sum to 100

The overall picture given by these tables, and from interview comments, is that not only do school staff make use of this data, but also they mostly find it helpful in relation to their classroom, departmental and school activities. Primary school subject coordinators reported that key stage 1 results, together with the data produced in school, were the most helpful (with 91 per cent in each case saying that these were either '*very helpful*' or '*helpful*'). This was perhaps to be expected, given the usually customised nature of school-produced data.

A similar picture emerged from the secondary school questionnaire responses. Heads of department found key stage 3 results most helpful (94 per cent), along with GCSE results and school-produced data (92 per cent and 83 per cent respectively). Schools also found the comparative data provided by their LEAs to be helpful. These findings suggest that among the wealth of data available to schools, teachers find key stage results, alongside the bigger comparative picture that LEAs can provide, to be the most helpful and useful forms of data.

3.2 Who uses data?

These who took part in the survey were asked whether one member of staff had overall responsibility for managing performance data in their school. A slightly higher proportion of primary (79 per cent) than secondary respondents (72 per cent) reported having a colleague responsible for the data. Table 8 below provides further details on the status of the members of staff responsible for performance data.

Table 8. Title of teacher with overall responsibility for performance data

Job title	Primary school respondents %	Secondary school respondents %
Headteacher	49	10
Assessment coordinator	26	17
Deputy headteacher	13	52
Senior manager	6	4
Curriculum manager	<1	2
Director	–	4
Senior teacher	–	6
Head of year	–	2
Other	4	–
No response	<1	2
N	312	48

Due to rounding errors, percentages may not sum to 100

It was clear that a greater proportion of primary school headteachers (49 per cent) compared with secondary headteachers (10 per cent) had overall responsibility for performance data. Just over half of secondary school respondents (52 per cent) reported that this role had been delegated to deputy headteachers, perhaps reflecting the different staffing structures and usual sizes of primary and secondary schools. In primary schools where the headteacher did not have responsibility for performance data, this role most frequently fell to assessment coordinators (reported by 26 per cent of respondents).

The questionnaire survey sought information on the extent of other teachers' (i.e. teachers who were not headteachers or deputies) involvement in using different types of data (see Tables 9 and 10 below). There were some important issues here: to what extent does data remain in the hands of school senior managers? To what extent is it disseminated widely? Do different members of staff prefer to use particular types of data more than others? What might be the reasons for this? How is different data used – and what activities does it inform?

As can be seen in Table 9, there are patterns of similarities and differences in the types of data that various primary school staff use. Senior managers and assessment coordinators (those with responsibility for the school's overall performance) make more use of data which provides comparative information about '*like*' schools, such as PANDAs, the Autumn Package and LEA-produced data. However, in terms of more specific data about pupil performance, such as key stage results, school-produced data and baseline scores, other staff categories have been involved too.

Table 9. Staff use of performance data (primary schools)

Type of data	Senior manager %	Assessment coordinator %	Head of year %	Head of department %	Class teacher %	No response %
Key stage 1 results	90	74	16	24	81	4
Key stage 2 results	70	56	14	24	61	26
PANDA	91	64	8	16	31	6
Autumn Package	69	47	6	10	19	29
LEA-produced data	87	63	8	15	38	9
School-produced data	86	68	17	27	81	7
Baseline tests	74	51	13	16	71	18
PIPS	13	9	3	3	9	87
Other	18	14	5	4	20	78
N = 400						

More than one answer could be given so percentages do not sum to 100

The picture in secondary schools was a little different (see Table 10 below). In general, the use of data was more widely spread among staff, with heads of year and heads of department making more use of the data than their equivalent primary colleagues. Senior managers in secondary schools were less likely to use school- or LEA-produced data. Secondary classroom teachers were also less likely to report the use of LEA-produced data by classroom teachers (only 24 per cent compared to 38 per cent of primary respondents) and school-produced data (71 per cent compared to 81 per cent). Clearly secondary school heads of department have a crucial role in the use of performance data, and training for school middle management may need to take account of this particular aspect of a departmental role.

Table 10. Staff use of performance data (secondary schools)

Type of data	Senior manager %	Assessment coordinator %	Head of year %	Head of department %	Class teacher %	No response %
Key stage 2 results	75	62	66	93	82	2
Key stage 3 results	85	66	60	94	85	3
GCSE results	84	60	47	88	69	10
PANDA	84	56	21	66	12	12
Autumn Package	65	47	16	53	12	29
CAT scores	65	54	50	69	62	19
MidYIS	16	12	9	15	9	82
Yellis	27	18	13	27	12	71
LEA-produced data	75	54	32	69	24	19
School-produced data	71	59	52	84	71	12
Other	10	10	12	12	12	87
N = 68						

More than one answer could be given so percentages do not sum to 100

3.3 Support and training

One important aim of the project was to try to assess the extent and the nature of LEA support and training for schools in using performance data. There was also a concern to explore the extent to which LEA support met the needs of schools.

The results from the questionnaire survey suggested that while teachers had positive views about the data that the LEA had sent to their school, their perception was that LEAs were less effective in terms of providing training and support in this area for school staff other than headteachers.

Much of the training appeared to be aimed directly at headteachers, rather than classroom teachers, who often had to rely on '*cascaded*' knowledge and skills. This finding was supported by the fact that a '*lack of training*' was identified as a difficulty by 23 per cent of primary and 29 per cent of secondary school respondents (for more detail on this, see Section 5.6).

Slightly fewer than two-thirds of primary school subject coordinators (61 per cent) and over a third of secondary school heads of department (39 per cent) reported receiving written guidance accompanying their LEA data. This suggested that guidance on data use was more frequently (and more easily) filtered down in primary than in secondary schools. Of those who received guidance on using their data, the great majority of primary teachers (93 per cent) felt the guidance to have been helpful. A smaller proportion (79 per cent), but still a substantial majority, of secondary school respondents reported that their written guidance had been helpful. Of those who did not receive any guidance, similar proportions of primary (71 per cent) and secondary (68 per cent) teachers reported that they would like to receive guidance from their authority.

Alongside written guidance, an important aspect of the support LEAs could provide to their schools was face-to-face training. As has already been mentioned, responses from the survey suggested that many teachers had not received training in understanding and using performance data from the LEA. Fewer than half of primary subject coordinators (42 per cent) and only 28 per cent of secondary school respondents reported that they had had LEA training of this form. It appears that classroom teachers are often trained in the day-to-day school context, rather than in dedicated training sessions or courses, with information cascaded down from senior managers.

The training subject coordinators received from their LEAs varied in type (see Table 11 below), and there were some differences between primary and secondary school respondents. Two-thirds (67 per cent) of primary teachers who completed the survey had attended a '*one-off*' course, compared to just over a third of secondary teachers (37 per cent). However, '*whole-staff*' training was more frequently reported by secondary respondents. Programmes of ongoing support were, in general, less common than any other type of training.

Table 11. Types of training provided by LEAs

Form of training	Primary school respondents %	Secondary school respondents %
Whole-staff training	20	37
A 'one-off' course	67	37
An ongoing programme of support	28	21
Other	11	27
No response	4	–
N	167	19

More than one answer could be given so percentages do not sum to 100

Schools were also asked to provide information about the focus of the training they had received from their LEAs. A wide range of activities was identified; however, among both primary and secondary school respondents, target setting was the most common focus of training programmes (19 per cent of secondary school and 14 per cent of primary school respondents). Twelve per cent of secondaries and 11 per cent of primaries had had training in understanding different types of data and the same proportion of secondaries had focused on value-added analysis.

It was clear that, in the view of teachers, there was a perceived gap between what LEAs offer schools and the support that teachers feel they need. As can be seen in Table 12 below, fewer than half of the respondents (47 per cent of primary and 42 per cent of secondary) felt that the training they had received had met their needs.

Table 12. The extent to which LEA training has met the needs of primary and secondary school respondents

Training has met their needs... ?	Primary school respondents %	Secondary school respondents %
Yes	47	42
No	6	21
In part	42	32
Unsure	2	–
No response	4	5
N	167	19

Due to rounding errors, percentages may not sum to 100

If there was a degree of dissatisfaction about training provision, what kinds of training did these respondents wish to have? How could LEAs start to bridge the gap? There was a great deal of similarity among primary and secondary coordinators as to what their training needs were. For example, 19 per cent of primary and 18 per cent of secondary school respondents felt that they needed more support to be able to effectively analyse and interpret performance data. Similar proportions (22 per cent of secondary heads of department and 16 per cent of primary coordinators) felt that they would benefit from training to improve the ways in which they could make best use of the data they were receiving.

Training classroom teachers in data use certainly seems to be an area that LEAs need to look at. It should be noted, however, that during the interviews, many headteachers expressed satisfaction with the training they had received from their LEAs. For example, one primary headteacher described an ongoing programme of termly meetings, which focused (particularly in the autumn term) on the analysis of performance data. She commented that '*the forums are providing good support and relevant support*'. In addition,

the LEA also ran one-off courses: '*There are plenty of courses on school improvement and school self-review... they're urging headteachers to get involved.*' Another headteacher also felt that LEA training for staff other than headteachers was unnecessary and undesirable as this would only increase the workload burden on teachers: '*I don't think staff want any more information than what we* [school managers] *give them....it's almost a waste of time, so many people analysing the data. We all come up with the same conclusions!*' In this context, it is difficult for LEAs to get the balance right, in terms of who should be trained in the use of data, and how much training they should receive.

4. USING DATA FOR SCHOOL IMPROVEMENT

The previous chapter has outlined the types of data used in schools, but another important part of the research brief was to uncover *how* performance data is being used. This chapter looks at examples of the uses of performance data in schools, examines teachers' attitudes towards the use of data, and summarises the perceived advantages of using pupil data.

4.1 How data is used in schools

Both subject coordinators completing the questionnaires and senior school staff interviewed agreed that data is used in two main ways: firstly, for target setting, and secondly for planning and review activities.

Results from the survey (see Tables 13 and 14 below, relating to target setting and planning and review, respectively) show that there were similarities in the ways that primary and secondary schools used the data available to them.

Table 13. Types of target setting activities informed by the use of data

Target setting for . . .	Primary school respondents %	Secondary school respondents %
Whole school	85	50
Year groups	76	62
Key stage 1	68	–
Key stage 2	66	–
Key stage 3	–	87
Key stage 4	–	87
Individual pupils	79	79
SEN pupils	68	57
Gender groups	36	25
Ethnic groups	10	4
Other	5	10
No response	1	–
N	400	68

More than one answer could be given so percentages do not sum to 100

If there were any differences between the primary and secondary sectors, they were in whole-school target setting (used by 85 per cent of primary school respondents, compared to 50 per cent in secondary schools), and in target setting based on key stage information.

Table 14. Types of planning and review activities informed by the use of data

Planning and review activities	Primary school respondents %	Secondary school respondents %
Improvement planning	84	75
Professional development	67	57
Curriculum planning	81	77
Lesson planning	67	65
Analysis of year-on-year performance	88	93
Target setting reviews	85	79
Reports to governors	80	40
Reports to parents	73	49
Other	1	3
No response	1	2
N	400	68

More than one answer could be given so percentages do not sum to 100

There were also few differences between the two sectors in relation to planning and review activities. However, a higher proportion of primary schools indicated that they used data as a basis for reporting to governors and parents than secondary schools.

It became apparent from the in-depth interviews that school systems for using data varied widely, from those in which data exists and is used '*patchily*' by teachers according to their personal interest and degree of skill in interpreting data, to those in which a comprehensive, whole-school approach has been developed over a considerable number of years. Most of the schools visited as part of the qualitative data collection phase of this research had either well-developed or developing systems for the analysis and use of performance data, with only a minority experiencing such significant difficulties that they were unable (and occasionally reluctant) to encourage the widespread and routine use of data to inform school management and classroom practice.

Many of the schools visited had a process of '*filtering down*' the large amounts of data that they receive from their LEAs and commercial organisations, in addition to that generated in-house. This was usually a task undertaken by the headteacher, often with the help of a deputy, assessment coordinator or, occasionally, a governor. Other staff would then

be provided with the selection of data considered relevant to their particular needs. Often this approach was adopted in an effort not to overwhelm teachers with data, so that they were '*not getting lost in a maze of numbers*'. Only in a minority of smaller primary schools was all of the available data shared across the whole teaching staff. Often target setting was carried out only by headteachers or other senior staff, but senior managers were keen to encourage class teachers to make more use of the data, partly as an attempt to spread the workload. The headteacher of a primary school visited as part of the research commented that: '*Using CATs results with teachers takes hours. It will be better when teachers do the analysis themselves and report back to me.*'

When teachers spoke of '*target setting*' and '*monitoring*', these broad categories hid a variety of activities. In particular, targets were often set and monitored for the whole school, key stages, departments, year groups and individual pupils. Only in a small proportion of schools, however, was much comment made in relation to the usefulness of data for setting targets for particular groups of pupils, such as ethnic minorities, boys and girls, high achievers and low achievers. This is a finding that is supported by the survey results.

Given the amounts of data available in schools and the numbers of staff involved (to varying degrees) in its analysis, it was not surprising that several interviewees were keen to stress the importance of putting in place systems to enable information to be shared among staff. There was a great deal of variation in practice in terms of setting up data-sharing systems, and it appears that much of the impetus depended largely on the vision of the headteacher.

The following case studies offer illustrative examples of some of the approaches and systems that schools have developed to make use of performance data. The first of these highlights the importance of tracking individual pupil progress, while the second describes how one school uses its ICT system to support the widespread use of data.

Case study: tracking individual pupil progress

This is a medium-sized girls' school, located in an inner-city area. Twenty-one per cent of pupils are entitled to FSM and although there is a high proportion of EAL pupils, only a few of these are in the early stages of learning English. The school achieves excellent examination results, with 80 per cent of pupils gaining five GCSE A* to C grades. The headteacher has been in post for ten years and is particularly keen to track pupils to see where the school is adding value. They have had a system of individual pupil monitoring (IPM) in place since 1995.

IPM is used by all the teaching staff, and pupils are assessed in each subject on a termly basis. Assessment includes both 'achievement' and 'attainment' levels. In addition, targets are set for each subject, and summative assessments take place during the summer term. Pupils themselves are involved in the process and have twice-yearly meetings with tutors to review their progress.

The headteacher stressed the importance not only of the outcomes, but also of trying to understand 'what works': '*The data is not just telling us whether we're adding value, but what we've done to the processes for adding value.*' In addition to individual pupil tracking, departments carry out an annual review which considers their attainment, curriculum planning, quality of teaching and learning, individual pupils' needs (such as SEN, gifted and talented), leadership and management .

Despite the wealth of data available in the school, there is a clear focus on the purpose behind using it: '*Data ought to make you ask questions. I wanted to be able to help teachers make a difference in the classroom.*'

Case study: using information and communications technology

This school, a large suburban comprehensive with predominantly mixed-ability classes, has worked hard to develop an ICT system which reflects the particular needs of the institution. The assistant headteacher has been largely responsible for setting up the system, which is easily accessible: '*We are unique at this school in that we can do it, we've got lots of hardware. The data can be accessed on any machine by all staff...*[the data] *is very public.*'

Teachers are responsible for putting 'level' and 'effort' grades into the system. Up to a year ago, staff were working with large amounts of 'raw' data. Now, however, summaries of performance and progress are electronically produced for each department by the assistant headteacher.

The school's Senior Management Team also uses the information to identify management issues: for example, that one department's teachers may have been too harsh in setting the levels of their predicted grades, which in turn may have had a negative impact on teachers' expectations.

Key stage 2 to 3 progress data is used to develop predictions for all pupils. In addition to data for individual pupils, there is also a supplementary database for pupils 'causing concern' which includes pupils putting in little effort as well as low-ability pupils, and a database of 'improving' pupils has also been developed. This data is shared with careers counsellors and educational psychologists as well as teaching staff.

It is notable that both of the case-study schools described above included pupils in the processes of monitoring and reviewing performance. While this practice was not widespread among the schools visited, it was felt in these cases to be a particularly important part of the ethos behind using performance data, a 'pupil-centred' approach to target setting and review.

4.2 Teachers' attitudes towards performance data

The investigation reported on here provided a useful opportunity to explore teachers' attitudes towards data. Do teachers themselves consider that data is helpful in informing their practice? Does their school encourage the widespread use of data among staff? Are there adequate systems in place in schools to ensure that teachers receive data that meets their needs and at a time when it is most useful to them? Have teachers' attitudes towards performance data changed in recent years?

Table 15. Primary school respondents: views on performance data

	Strongly agree %	Agree %	Disagree %	Strongly disagree %	Don't know %	No response %
School has a good system for collecting data	16	67	12	1	4	1
School has good systems for analysing data	13	57	21	1	6	2
School has a good system for disseminating data to the staff	5	64	22	3	4	2
Data is given to me at the right time to enable me to use it effectively	7	60	24	2	6	3
Data is useful to help set targets	43	55	1	1	1	1
Data is useful for curriculum planning	21	68	7	1	2	2
Data is widely used by all staff	9	44	32	6	7	3
Not enough helpful performance data in school	2	11	58	21	5	4
N = 400						

Due to rounding errors, percentages may not sum to 100

Among primary school teachers who took part in the survey, the majority agreed (or strongly agreed) that data is useful for target setting (98 per cent) and curriculum planning (89 per cent). The responses (see Table 15 above) also suggested that, on the whole, primary school subject coordinators were satisfied with the systems that their schools had put in place to collect and analyse data. However, around a quarter of respondents reported difficulties with their school's system for disseminating data (25 per cent), 38 per cent felt that data was not widely used by all staff, and over three-quarters (79 per cent) felt that there was not enough helpful performance data in school.

The picture for secondary schools broadly reflected the views of primary coordinators (see Table 16 below). Once again, the majority of respondents felt that data was useful for target setting and curriculum planning. However, higher proportions of secondary school coordinators reported difficulties with the dissemination of data (44 per cent of respondents disagreed or strongly disagreed with the statement that '*The school has a good system for disseminating the data to staff*' compared to 25 per cent of primary respondents) and the timing of the data they received (40 per cent secondary expressed a negative view, compared to 26 per cent of primary respondents).

Table 16. Secondary school respondents: views on performance data

	Strongly agree %	Agree %	Disagree %	Strongly disagree %	Don't know %	No response %
School has a good system for collecting data	19	47	21	7	4	2
School has good systems for analysing data	15	44	31	6	4	–
School has a good system for disseminating data to the staff	10	43	34	10	3	–
Data is given to me at the right time to enable me to use it effectively	7	43	31	9	10	–
Data is useful to help set targets	47	49	2	–	2	2
Data is useful for curriculum planning	27	59	3	4	7	–
Data is widely used by all staff	15	27	35	9	13	2
Not enough helpful performance data in school	3	10	43	34	9	2
N = 68						

Due to rounding errors, percentages may not sum to 100

In addition to the survey data, comments made by headteacher and governor interviewees broadly echoed these survey findings and also revealed that, on the whole, teachers' attitudes towards using performance data have improved in recent years. In only two of the schools visited were any concerns about teachers' use of data raised. In one school, it was felt that teachers were sceptical about the usefulness of value-added data and in another the headteacher expressed a general concern about using data for predictive purposes, commenting that '*I am sceptical that any statistician can predict what will happen*'.

There was some suggestion from a number of interviewees that teachers of core subjects had become more familiar, more quickly, with performance data and were more willing to use data than other subject teachers. However, a significant number of schools were keen to stress that a culture of open professional dialogue about performance data had developed across the whole school. In one primary school, responsibility for using data had become more widespread in recent years. It was no longer the exclusive job of Year 2 and Year 6 teachers: '*It's a corporate responsibility. There isn't a blame culture here;, we just have to say what we've got wrong and what we need to do.*' An assessment coordinator in a large secondary school noted that the way in which performance data was used in the school reflected the ethos of the school more generally: '*There's a leadership culture in this school which isn't about smacking people over the head.*'

It appears that as teachers become more familiar with analysing data and using it to inform their target-setting cycles, for tracking pupils' progress and identifying learning needs for particular groups of pupils, so they approach performance data with increasing confidence. The nature of training received by teachers in this area is discussed in some detail in Section 3.4. However, it is worth noting here that a number of schools felt that INSET focused on the analyses and use of data had played an important part in improving teachers attitudes: '*The change has largely come from the INSET. League tables* [had] *put staff back a long way. Now staff can see the value of data as being a positive influence on the way they plan.*'

4.3 The advantages of using pupil data

It is not possible to say how the use of data has impacted upon pupil attainment without further quantitative research in this area. It would, in any case, be very difficult to disentangle all the factors, including teaching quality, school characteristics, pupil prior attainment and the effects of various educational initiatives, that may be impacting upon pupil achievement.

However, from the research carried out for this project, it is apparent from the perspectives of LEA officers and school subject coordinators that there may be a number of benefits arising from the expansion of the use of pupil data over the last few years. These can be briefly summarised as follows:

- LEA–school collaboration
- increased involvement of teachers with data and analysis
- increased pupil involvement in assessment and monitoring
- transparency in educational objectives.

LEA–school collaboration. The use of performance data provides unique opportunities for schools and LEAs to work together. The schools and LEAs featured in this research (with one possible exception) tended to work closely together in this respect. Schools worked closely with their statistics departments and link advisers to maximise the effective use of data. LEA officers had clearly been taking account of the needs of schools, and school staff generally recognised their responsibility for acting upon the data that had been provided by LEAs. LEA-produced statistical packages were useful to school staff in that they facilitated local and national comparisons with other schools. Value-added information also helped school staff to identify pupil progress that may not have been evident from '*raw*' data, sometimes giving teachers a much needed morale booster.

Increased involvement of teachers with data. Although teachers' familiarity with, and confidence in using, pupil performance data varies considerably from individual to individual and from school to school, there can be no doubt that the last few years have seen developments in the statistical knowledge and skills of the teaching profession as a whole. Many interviewees stressed that teachers were '*much more confident*' in using data than they used to be: '*they know what questions to ask*'. Some schools reported that *all* their teachers were involved in target setting and data analysis processes. There was also evidence that teachers were increasingly '*talking to each other*' about pupil performance: inter-departmental discussions were frequently mentioned as a way of seeking out underachievers.

Increased pupil involvement. There was also some evidence that the use of data and the setting of targets was filtering down to pupil level, providing common goals and ways of working for teachers and their pupils. One primary school, for example, pasted 'target cards' into the backs of pupils workbooks, which were reviewed in discussion with pupils every six to eight weeks. Several interviewees suggested that their pupils had become more focused on their work as a result of improving their understanding of performance targets.

Transparency in educational objectives. Although there were a number of (mainly indirect) criticisms of the target-setting agenda, and some direct criticism of performance tables, both school and LEA respondents tended to accept that the use of performance data was now an established part of school and classroom life. Many stressed that education should not revolve entirely around statistics of pupil performance, but there was a recognition that, if performance data was fairly presented and used, then it was very useful as a tool for raising the individual achievement levels of pupils and for school improvement more generally. Value-added data assisted the process of making fair comparisons. LEA officers also appreciated the importance of data for giving an overall picture of schools' performance, which could be used as a basis for future strategic decisions.

5. ISSUES AND CHALLENGES

In addition to exploring the various strategies employed by LEAs to support schools in the use of performance data, and the ways in which schools made use of the data available to them, the research team was also concerned to identify the difficulties and constraints which both LEAs and schools encountered in attempting to assimilate different types of data and to embed them into planning and review cycles.

When asked whether they had encountered any difficulties in using performance data, 132 primary subject coordinators (a third of those who responded) and 32 secondary heads of department (47 per cent of respondents) reported having experienced one or more problems. These teachers were asked to identify those types of data which had caused them problems and also to indicate the nature of their difficulties.

5.1 Difficulties with data

Tables 17 and 18 below show that, on the whole, similar proportions of primary and secondary teachers reported difficulties with the same types of data. For example, 24 per cent of primary school respondents and 22 per cent of secondary school teachers reported having difficulties in making use of their school's PANDA report. There were also no major differences in teachers' views of the Autumn Package and LEA-produced data, in this respect.

In contrast only four per cent of primary school subject coordinators encountered problems using key stage 2 data, compared to almost a third (29 per cent) of heads of department in secondary schools. This undoubtedly reflects the fact that primary teachers will have *less need* to use key stage 2 data than secondary teachers.

PANDA reports presented the greatest difficulties for those primary teachers who responded to the questionnaire (24 per cent), with the Autumn Package causing difficulties for 17 per cent. It was evident from the data that the use of key stage results and data produced by schools themselves was relatively unproblematic in primary schools.

Table 17. Types of data that have caused difficulties for primary school subject coordinators

Types of data that have caused difficulties	% of respondents
PANDA	24
Autumn Package	17
Baseline tests	12
LEA-produced data	11
Key stage 1 results	7
Key stage 2 results	4
PIPS	3
School-produced data	2
Other	2
No response	56
N = 400	

More than one answer could be given so percentages do not sum to 100

Table 18. Types of data that have caused difficulties for secondary school heads of department

Types of data that have caused difficulties	% of respondents
Key stage 2 results	29
PANDA	22
Key stage 3 results	16
Autumn Package	16
LEA-produced data	13
CAT scores	10
School-produced data	10
Yellis	7
MidYIS	4
GCSE results	2
Other	6
No Response	32
N = 68	

More than one answer could be given so percentages do not sum to 100

With reference to the secondary school responses, it was clear that heads of department had encountered more difficulties with key stage results and other '*publicly available*' data (the Autumn Package and PANDAs) than they had with commercial data such as Yellis and CAT scores and data provided by their own LEA or school.

Having identified the types of data that had proved to be problematic for teachers, it was important to attempt to uncover information about the nature of these difficulties. Table 19 below presents survey responses to a question asking what the causes of the difficulties in using data had been.

Table 19. Reasons for difficulties in using performance data

Reasons for difficulty	Primary school respondents %	Secondary school respondents %
Lack of time	37	47
Lack of training	23	29
Poor presentation of data	9	24
Lack of access to ICT facilities	9	19
Being given data too late	7	34
Inappropriate ICT hardware	6	12
Receiving too little data	3	18
Other	15	25
No response	46	24
N	400	68

More than one answer could be given so percentages do not sum to 100

It can be seen from Table 19 that a lack of time to use data and a lack of training on how to use performance data were the two main reported difficulties for both primary and secondary school staff. It was also evident from the survey that other practical problems were causing concern in secondary schools:

- just over a third (34 per cent) of secondary heads of department felt that data were not made available quickly enough;
- 24 per cent reported difficulties with the ways in which data was presented;
- around a fifth complained of the lack of access to ICT facilities (19 per cent) or that they had not received enough performance data (18 per cent).

These issues did not appear to present problems to the same extent in primary schools. This is not surprising given that primary schools tend to be smaller than secondaries, and therefore the circulation of data will normally be easier.

Of those respondents identifying '*other*' reasons for their difficulties in using performance data, the most frequently identified problems were as follows:

- issues to do with the perceived unreliability or contradictory nature of the data (18 respondents);

- complaints that the available data did not meet the needs of small schools (12 primary school respondents);
- complaints that performance data did not always fairly represent the school's achievements (11 respondents).

The interview discussions broadly reflected the picture that emerged from the survey data; however the in-depth interviews uncovered some additional concerns amongst school staff. In this respect, it is important to note that there were some differences in the issues identified by schools and those highlighted by LEAs. In particular, overcoming negative attitudes towards performance data amongst *some* teachers was considered to be a prime concern for LEA officers, while this was not felt to be such a significant challenge for schools. The specific issues identified were as follows:

- timing issues
- difficulties with systems for analysing and disseminating data
- problems with the relevance and reliability of data
- lack of time to analyse and use data
- further requirements for LEA support.

These are discussed further below.

5.2 Timing issues

The timeliness of performance data is of great importance to schools, especially if it is to be used in meaningful ways to inform curriculum planning, target setting and reviews of pupil, teacher, departmental and whole-school performance. As has already been reported, there were concerns amongst secondary school heads of department and LEA officers (see Section 2.1) that data arrives too late to be really useful as a contribution to these processes. Evidence from the interviews supports this view: staff in seven of the schools visited highlighted timing as a problem. The need to process data as it arrives from schools and to disseminate national, local and school data as quickly and conveniently as possible was clearly recognised as a challenge by both school managers and LEA personnel.

In most cases, LEAs were able to provide schools with data during October; however, there were exceptions, with one school reporting having had to wait until March to receive value-added data. Some LEAs were clearly finding it difficult to produce data packages quickly enough to meet schools' needs. One LEA information officer described the weeks between national data being published and sending data to schools as follows: '*It feels like a tremendous rush between getting data* [in] *and getting data out quickly enough to be of use in the current school year.*'

While it was clear that a great deal of effort was being made by LEAs to produce data for schools as close to the start of the autumn term as possible, interviews with school staff suggested that much of the review and planning work undertaken by school senior managers, key stage coordinators and heads of department takes place during the summer break using their own key stage results. Clearly this level of analysis can only make use of in-school and LEA data: PANDAs and the Autumn Package, inevitably, can only be used later, in the autumn.

5.3 Systems for analysing and disseminating data

By and large, the LEAs featured in this research had well-developed systems for collecting, analysing and disseminating data, which had been reviewed and refined over a number of years (with the exception of the unitary authority, which was understandably still in the early stages of developing systems). In contrast, however, there were wide variations in schools' practices for managing and disseminating the data they were receiving from different sources, at different times and in different formats.

Findings from the interviews point to concerns among both LEA and school personnel about variations in school systems and particularly in the use of ICT to support data analysis and dissemination. Difficulties appear to arise for three reasons:

- schools do not have the appropriate hardware and/or software
- even where ICT systems are available, access can be limited
- some teachers lack the skills to make use of the equipment.

These practical difficulties were also raised by teachers in the surveys, and it appears that while the management of data was not felt to be a problem in the majority of schools visited, in those schools where provision or skills were lacking, the impact was significant.

In some schools, teachers had had difficulty using the Autumn Package. One school asked its LEA for help with the Autumn Package, but officers were unable to help because they themselves had not received anything relating to this package. Schools were also grappling with wider problems of collating data from different sources (paper and electronic) in an effort to streamline analysis and dissemination processes.

These data systems and storage issues were felt acutely, for example, among teachers in the unitary authority visited by the research team. In some schools, data was produced only on paper: '*We are not doing it in a technically efficient advanced way – still paper!*' Another headteacher, who was candid in his admission that the school had made very little use of performance data, remarked that: '*We are developing a better system of storage. It* [assessment] *has been in teachers' markbooks rather than easily*

accessible.' Such fragmentation and restriction of information clearly makes it difficult for teachers to share their assessments and to open up a dialogue about pupils' performance in different areas of the curriculum – information which, if available, can prove valuable for identifying areas of the curriculum, groups of pupils or individuals who may be causing concern.

5.4 Relevance and reliability of data

Given the increasing amounts and different types of data currently available and the limited time that teachers have to make use of this data, it is important that school staff should be confident that what they receive provides an accurate picture of their pupils' performance and that it meets their needs, in terms of planning, target setting and so on. The interview responses suggested that teachers do largely have confidence in the data that is provided. If, however, teachers do not have confidence in the data or do not see the relevance of it to their school, then the data is of limited use. As one headteacher commented: '*Masses of data don't mean a thing if teachers don't think it is useful*'.

Many of the issues related to the relevance of data centred around the use by LEAs of benchmarks, either local or national, to compare schools against other 'like' schools. Usually this was done by placing schools in bands according to the proportions of pupils entitled to free school meals (FSM). There were some comments about the relevance and meaningfulness of the FSM criterion. Teachers in one school echoed the views of teachers elsewhere when they said that schools which are deemed similar in terms of their FSM may in fact have very different characteristics. Sometimes, had a school's FSM been one per cent higher or lower, they would have been placed in a different benchmark band, which would have given a very different 'picture' of their relative performance.

The headteacher of a school with high academic performance was also critical of what her PANDA report could tell her, given that almost all of her students achieved five GCSE grades at A*–C: '*It doesn't tell me how much further I can go!*' Another headteacher, this time from the primary sector, was very critical of PANDA reports: '*PANDAs are disgusting. They are cold and impersonal. They give unnecessary data, which makes me fume!*'

These examples highlighted the difficulties facing those involved with producing school performance data in an effort to meet schools' individual needs. A further criticism was raised in relation to an LEA data pack which presented the same data in a variety of ways: this had the advantage of enabling schools to use the format best suited to them, but also required teachers to filter out information, which was a time-consuming exercise.

Most data was seen to be relevant – and LEAs had clearly been listening to teachers' views about what statistical information was most useful to them, but there was also some evidence to suggest that certain types of data were

not felt to be helpful because teachers were unclear as to what they might mean or how they could best use such information. One teacher pointed to the need for LEAs to provide targeted training and guidance: '*If you speak the same language as those who have written it* [the data pack], *you will understand it!*'

A smaller number of interviewees expressed concerns about the reliability of data, often raising issues, for example, about baseline data. One respondent, who worked in an infant school, made this point. In her school, termly meetings of the headteacher, SENCO and class teachers take place to consider the needs of individual pupils in the light of targets which are set for the year group. The headteacher felt that it was important that year group average targets only should be set for Year 1 pupils, rather than individual pupil targets. She stressed that: '*Reception children are not as ready to learn and so data is unreliable*'.

A teacher in a relatively small unitary LEA was also sceptical of the 'likeness' of other schools in his authority: '*It might be helpful to have wider groups... there are only* [a limited number of] *secondaries, which begs the question of how comparable schools are.*' In other schools and in two LEAs, there were concerns about the reliability of key stage 3 data (particularly English scores) and teacher assessments: '*I don't think anyone... takes any notice of them!*'

5.5 Lack of time to analyse and use data

Finding time to consider performance data and to feed it into monitoring and review processes was the most commonly reported difficulty for both primary and secondary teachers who completed the questionnaires. This pattern was also evident in the information collected during the qualitative, interview-based, phase of the project. For most schools, the work of collating and analysing data takes place outside teachers' usual working day (and often during holidays), though a few have made resources available to enable those responsible for data to have time set aside within the school day: this tends to be more difficult for primary schools, where teachers do not usually have non-contact time.

One headteacher of a primary school was very enthusiastic about the value of performance data, but nevertheless felt pressurised by other demands. The need to balance competing demands had left her frustrated that progress in encouraging more of her class teachers to engage in the data was taking longer than she had hoped: '*The biggest problem is time. There's never enough time to do one thing well before it's time to do something else. Everything is getting done, but not as quickly as we'd like.*' Another teacher also pointed to the time it takes to make judgements about both the figures and teachers' own knowledge of their pupils: '*It's not just a matter of collecting data. It's engaging with individuals and inevitably time is a problem.*'

That time, or the lack of it, was an issue for many schools is perhaps unsurprising. What emerged from the research, however, was the importance of having in place strategies and systems which minimise the burden on teachers, and that LEAs should provide relevant and timely data which teachers can comprehend quickly, using systems which minimise duplication and errors.

5.6 Further requirements for LEA support

There was some criticism from a minority of school respondents about the level of support they received from their LEAs. This was mainly to do with, firstly, forms and relevance of training provision and, secondly, a perceived lack of quality in one-to-one support from link advisers. Teachers expressed some dissatisfaction about the focus of training, reporting that they wanted to develop their skills in using data rather than their understanding of it. For example, one headteacher described how the LEA had focused on outlining what types of data they provided (benchmarks, value-added figures, and so on) rather than on how to use data to identify areas for improvement. '*We need to know what it means and what to do about it!*' said another headteacher interviewee.

There were also practical problems, particularly in arranging training for governors, who often had other professional responsibilities: '*We usually get such short notice or they're* [training sessions] *during working hours.*' Teachers from the same authority were also critical that the LEA did not have a uniform system for producing data, which meant that different types of information (on gender and ethnicity, for example) was generated by different departments and disseminated at different times of the year. There were also complaints about '*the problem of repeated* requests [for information] *from the LEA*'.

It should be stressed that, in general, the support provided by LEA advisory services was widely appreciated. However, one authority featured in the research attracted criticism from teachers for not having enough advisers. They said that at times it was difficult to contact the Assessment Adviser, who was often unavailable due to a high workload. Relations with link advisers were also said to be poor. In three of the four schools visited in this authority, teachers were unhappy with the relationship they had with their adviser. One headteacher described an unproductive meeting as follows:

> *I just talked at her for three hours. I was having to defend members of my staff. All that was looked at was the data and not the reasons behind it. It would be useful to use the link adviser as a sounding board. I feel I'm having to justify all the time. It's judgemental so there's a lot I would never say, because judgements would be made on it.*

A governor from another school in this authority was also concerned that the school was receiving conflicting messages from advisers, and he hinted at conflicts within an organisation where link advisers appear to hold more authority than subject advisers:

> *We have had contradictory advice from a literacy adviser and our link adviser, which is unhelpful in the extreme! We value the literacy, numeracy and SEN advisers much more* [than link advisers]. *They're not a cohesive bunch... you feel you may as well just get on and do it yourself.*

6. RECOMMENDATIONS AND CONCLUSIONS

What does all this mean for LEA and school staff who use pupil performance data? What messages came out of the research that would help to inform the future use of pupil data? This chapter takes an overview of the survey and interview data and presents a number of recommendations for LEA and school staff.

6.1 Recommendations for LEAs

It was clear from the questionnaire survey responses and the interviews with senior school staff that schools were, on the whole, satisfied with and appreciative of the statistical services provided by their LEAs. Some were very enthusiastic, noting the usefulness of, for example, value-added data and comparative information based on 'families' of schools. However, there were a number of suggestions from our respondents about how LEAs might be able to enhance their role in relation to the collection, analysis and dissemination of pupil performance data. These are presented below as a series of recommendations, supported by LEA officer comments where appropriate. They are not meant to be prescriptive, and their relevance will vary across LEAs: they are provided as a stimulus for discussion on how the provision of pupil performance data for schools might be improved.

- ***Consider simplifying and streamlining the presentation of data to schools***. Aim for simplicity in data collection and presentation. Ensure that data is presented in efficient and accessible ways and, additionally, try to ensure that where possible only relevant data is presented: '*We... need to make sure that we only produce usable data, striking a balance, making sure that schools have what they need; you don't want to produce stuff that goes in a cupboard*'; '*It is no use putting complicated stuff on OHTs. I'm convinced the simplest things are the best*'.

- ***Look carefully at the timing of the production of data packages***. To a large extent, of course, LEA officers are constrained by national time cycles of data production and target setting, but in the view of some of our teacher respondents, there may be some room for improving the timeliness of data provision, support and guidance at local levels.

- ***Encourage schools to conduct dialogues and to share good practice***. Of course, the drive for this may need to come from schools themselves, but LEA officers, with their overview of schools in the locality, could help: '*Sharing good practice* [in the use of data] *between strong and weak schools would help*'; '*We could pick out more examples of good practice*'.

- ***Consult regularly with, and encourage feedback from, the users of your data.*** There were strong signs that good practice in data provision and analysis was associated with regular feedback. Systems were stronger and procedures were more relevant where there was regular communication between teachers, advisers and LEA officers, and where evaluation of LEA processes was taking place.

- ***Consider how best to provide (and who to target for) training in data use.*** There are obvious financial and time constraints on LEA provision, but it would appear from our respondents' comments that there may be a need for more customised training on using data, targeted at middle managers and classroom teachers, as well as headteachers. Training should be geared to how data should be used, not what forms it takes. Support should be ongoing and easily accessible.

- ***Keep a focus on the 'bigger picture', on the strategic implications of school and pupil data.*** Keep a focus on quality, rather than on service: '*Don't get sucked into the day-to-day crises. Keep the analytical focus, stay strategic*'; '*The area of quality assurance will grow.* [LEA] *Departments will have growing analytical functions and less service provision... Quality standards will be important*'.

6.2 Recommendations for school staff

Interviewees showed universal agreement in the belief that teachers and school managers were getting better at using data. As the quotations at the very beginning of this report show, LEA officers were positive about the ways in which school managers and other school staff were developing their uses and understanding of pupil data.

There were, however, some variations on this theme. A few respondents identified differences between the primary and secondary sectors, or between senior managers and classroom teachers, or between departments or curriculum areas. A number of views about how school staff might improve their use of data emerged from the research findings. Again, these are presented as ideas for consideration and discussion rather than as prescriptions for 'success': much depends, in any case, upon the context, culture and procedures of the individual school.

- ***Spread data analysis responsibilities and tasks throughout the school.*** It seems that, in the view of many of our respondents, involvement in the use of performance data, to some degree, should permeate all levels of a school staffing structure. Headteachers, understandably, have played a major role to date, but there is evidence that subject coordinators, heads of department and classroom teachers should all be involved if data is to be used to best effect. The LEA officer who stated that '*class teachers are the weakest link*', in terms of data analysis and use, was not alone in taking this view!

- ***Encourage intra- and inter-school collaboration in data analysis and use***. School management teams may wish to consider possible ways of providing the space, time and mechanisms required to allow teachers and departments to talk to each other. Sharing thoughts on the progress of individuals or groups of pupils is a good way of identifying underachievement. It is also clear that schools can learn a good deal from each other about best practice in using and acting upon performance data.

- ***Consider (further) involving pupils in planning their own targets and achievement levels***. Obviously such involvement needs to be kept simple and relevant, but the resultant dialogues between teachers and pupils help the latter to focus and to see the objectives of their work. There may also be motivational benefits within these processes.

- ***Keep in mind the whole picture of pupil performance***. Many respondents were at pains to stress that although pupil performance data is highly important, it constitutes just one part of the context of raising achievement levels and improving educational outcomes. Teacher interviewees, particularly, emphasised the fact that they need to continue to use their professional judgement, intuition and hunches, as well as 'objective' performance data.

- ***Encourage action on data, as well as accessibility***. Several respondents made the point that it is no good just looking at data; you need to act upon it. One school interviewee showed the researcher an electronic spreadsheet which was '*available to every teacher in the school*', but at the same time acknowledged that '*access isn't everything*'. Teachers need to be given time to consider and reflect upon data, to plan who they are going to target and how they are going to act upon the data. Senior school staff may wish to consider what mechanisms and procedures are best for encouraging and facilitating action on underachievement in their own institutional context.

6.3 Conclusions: keeping data in context

The interviews conducted for this research pointed to widespread agreement among school staff that performance data is an important element in their annual cycle of work. However, interviewees were also keen to place the use of data in its wider context, seeing it as one part of the picture of their schools' performance and as one way of assessing their schools' strengths and weaknesses. They were concerned not to place too much emphasis on examination results and test scores at the expense of other aspects of children's wider educational development and experiences.

The headteacher of an inner-city school was keen to place data in context, not only for her teaching staff, but also for parents and pupils, in an effort to encourage children (from Reception onwards) to view learning as relevant to their lives:

I'm still struggling with unlocking the whole issue of motivating children who come from environments where education is not seen as important... the big picture is important; this is what we're doing, this is why we're doing it and this is how it links to life.

A further example of 'putting data in context' came from the headteacher of an inner-city primary school. She was considering whether or not to admit to the school a group of refugee children who had recently arrived in the area. She said that some staff had expressed a view that the children should not be admitted because, with their lack of spoken and written English, they would have a '*negative effect*' on the school's performance statistics. In the end, however, this headteacher felt that it was her duty to admit these children: '*Our main duty is to serve the community out there, not to try to produce good performance statistics.*'

Another interviewee was also concerned not to become over-reliant on performance data: '*It would be nice to measure pupils' development in other ways. Data is an objective picture, but life is about more things. I wouldn't want to become data fixated.*'

One respondent was very critical of a possible '*over-reliance on data. Data can tell you where there is a problem, e.g. writing, but not what the problem is exactly*'. She also stressed that data '*should carry a health warning. It provides only a snapshot in time. It can raise issues, but it doesn't give you the answers*'. There was also a worry that LEAs and schools are '*getting to the point where we're only interested in focusing on what is easily measurable*', rather than looking at things such as ethos and relationships.

Despite these justifiable words of caution, the great majority of school and LEA interviewees were positive and enthusiastic about the use of pupil performance data. LEAs were developing increasingly sophisticated data analysis packages, and school staff were becoming more and more confident with using data and setting targets. It is probably reasonable, given the extent of change in this area in recent years, to describe these developments as a kind of '*revolution*'.

But the revolution is not yet over; indeed it is likely to continue for some time yet. Developments in the provision of pupil data at the national level, including the availability of national value-added datasets, along with new ways of using statistics at local levels, will ensure that the culture and practicalities of data use will continue to change and to take new directions. It was clear from the attitudes of our respondents, and the things that they said, that their view was that the use of pupil performance data to improve educational outcomes is not something that is going to go away in the near future.

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APPENDICES

Appendix A

Table A. Number of Interviews by LEA

	Local education authority								Total
	1	2	3	4	5	6	7	8	
Number of senior officers interviewed	2	1	2	2	4	4	1	4	20
Number of schools visited within LEA	3	4	3	4	3	3	4	3	27
Total number of interviews within schools	4	7	3	5	4	4	5	6	38

Appendix B: LEA senior officer interview schedule

The LEA Role in Data Collection, Analysis and Use, and its Impact on Pupil Performance

Interview schedule for LEA personnel

Documentation to be requested:

- Any documentation relating the collection/analysis/use of performance data which the LEA has developed
- Relevant sections of the Education Development Plan
- Written evidence, if any, of the impact of performance data on pupil performance

1. The LEA Context

Name and type of LEA: location, size etc.

Characteristics of pupil intake and any particular features of the community served by the LEA which influence its work

Characteristics of school organisation within the LEA which need to be taken account of.

2. Performance Patterns

Where has the lead come from on school improvement/raising attainment in the LEA?

- advisory/inspection unit
- CEO
- data analysis unit
- councillor

What are the key areas of success and under-performance in the LEA as a whole?

Has the LEA undergone the Ofsted inspection process yet? If yes, what were the main findings?

What aspects of pupil performance has the LEA been seeking to improve? In which key stages/subject areas?

What are the LEA's performance targets for KS2 and KS4? How well does this average relate to the actual spread of school-level performance targets?

1

How far have standards of attainment improved - for which group(s) of students/ subjects?

Do you expect these improvements to be maintained next year/in the longer term?

Are there any areas where progress has been disappointing? If so, what reasons can be adduced for this?

What forms of consultation with schools are used?

Do schools feel sufficiently involved in the process of data collection and analysis? Is there a culture of 'ownership' in schools? Are there any schools 'outside the circle' (e.g. ex-GM schools). Why?

3. The production of data

What types and levels of performance and other e.g. contextual, data are produced by the LEA for schools?
Prompts: degree of disaggregation in terms of gender, ethnicity, SATs/value added

Is all the LEA's performance data based on statutory tests/produced in-house or are any optional services 'bought-in' by the LEA? (e.g. CATs, YELLIS). Do any individual schools buy in services?

What else in terms of data and information should be provided at LEA level?

What guidance materials has the LEA produced to support schools on, for example:
- target-setting
- using data for raising attainment
- identifying patterns of under-achievement and those students most at risk?

How useful are national data sets? What else should be provided at a national level?

4. Use of performance data

How well is the production, accessibility and use of attainment data on pupils as the enter Year 7 coordinated by the LEA?

Do these data enable schools to establish appropriate curriculum design and pupil groupings?

How, and how well, is performance data used to identify areas for improvement?

What training and support in using data is given by the LEA, by whom, to whom and in what form? Whose responsibility is it to help school SMTs interpret and work with their data?

Are there any other forms of data analysis, support/training that the LEA should provide for schools?

How is the production of data linked to LEA strategies and support for school improvement?

To what extent is there coherence and coordination across LEA services?

How well does the timing and production of data complement dissemination?

Do schools perceive the LEA to be giving coherent messages in these areas?

How widespread is the use of performance data *within* schools? What do staff use it for?
Prompt: monitoring and tracking individual progress, diagnosing learning needs, identifying areas for curriculum development/staff development

What monitoring and evaluation strategies has the LEA put in place to review the impact of its performance data package?

How do you know that schools make use of data?

What, if any, constraints have been encountered in schools' use of performance data?

What more do schools and the LEA need to do to maximise the impact of the data?

Appendix C: Senior school manager interview schedule

The LEA Role in Data Collection, Analysis and Use and its Impact on Pupil Performance

Interview Schedule for School Senior Managers

1. The school context and background information

The type and status of school: age range of pupils, staffing profile etc.

The nature of the pupil intake and any particular features of the community served by the school which influence its work.

Which member of staff has overall responsibility for performance data in your school? What is their role?

What is your own role in the process of analysing and using performance data? What are you other duties?

2. Collecting Performance Data

Does the LEA ask you to provide information other than that which is statutory, in order for them to produce performance data? What types of information?

Have you (or any teachers/governors) been consulted by the LEA as to the type(s) of data that would be of use to you as a school?

If yes, what form has this consultation process taken?

If no, would you like to be more involved in the process?

3. Provision of Performance Data

What types of performance and other e.g. contextual, data are produced by the LEA for your school? What exactly does your LEA provide?

Prompts: degree of disaggregation in terms of gender, ethnicity, SATs, value added.

Is all the LEA's performance data based on statutory tests, produced in-house or are any optional services 'bought in' by the LEA (e.g. CATs, YELLIS).

Do you, as a school, 'buy in' or receive any other types of performance data?

What else, in terms of data and information would you like to see provided by the LEA?

4. Using Performance Data

Which other members of staff and governor have responsibility for performance data? What is their role in making use of the data?
Prompts: analysis, distribution to staff, training etc.

Which other members of staff and governors make use of the performance data provided by the LEA?

What types of data do they use, and for what purpose?
Prompt: monitoring and tracking individual progress, diagnosing learning needs, identifying areas for curriculum development/staff development.

How, and how well, is performance data used to identify areas for improvement?

Have there been changes in the ways in which performance data is thought of and used in school in recent years? In what ways? By whom?

How closely do aspects of the schools' performance identified as being in need of improvement match with the work of the LEA?

How well does the timing and dissemination of data from the LEA complement the planning and review cycles in your school?

To what extent do you feel there is coherence and coordination across LEA departments and/or services? Do you perceive the LEA to be giving coherent messages?

How useful are national data sets to you as a school? What else could be provided at a national level?

5. Support from the LEA

Have you (or any other members of staff) received any written guidance from the LEA to support you in the use of performance data? How helpful has this been?
Prompt: on target-setting, raising attainment, identifying patterns of underachievement etc.

What type(s)/level(s) of training and/or support in using performance data have you received from the LEA?

To what extent has this met your needs? Are there areas in which you feel you would benefit from further training?

What types of training and/or support have other members of teaching staff and governors received from the LEA to help them understand and make use of performance data?

How useful, in your view, has training for other staff been? In what ways, if at all could the support for staff be improved upon by the LEA?

Are you (or other members of staff) able to contact the LEA on an *ad hoc* basis to discuss particular issues as they arise? Who would you contact in the LEA?

If not, would it be helpful to you to be able to contact the LEA as needs arise?

6. Impact on Pupil Performance

How far do you believe the use of performance data is helping to raise pupil attainment?

What evidence do you use to measure improvements?

Are there areas of pupil performance where you consider progress to have been disappointing? If so, what reasons can you adduce for this?

7. Summing up

Have you encountered any constraints in understanding and/or making use of the performance data provided by the LEA? Why? How (if at all) have these difficulties been overcome?

What more do LEAs and schools need to do to maximise the impact of performance data on pupils' performance?

Appendix D: Primary school subject coordinator's questionnaire

The LEA role in Data Collection, Analysis and Use and its Impact on Pupil Performance

Survey of Subject Coordinators in Primary Schools

Your Local Education Authority (LEA) has agreed to participate in this research project, which aims to explore the ways in which LEAs support schools to use performance data. A questionnaire is being sent to mathematics, science and English coordinators/Heads of Department in a sample of secondary and primary schools in eight LEAs. Your responses are very important in helping us to understand how performance data are used at departmental and school level. They will also assist us in identifying examples of good practice and the key issues and problems associated with the ways in which LEAs support schools to understand and use performance data.

We assure you that your answers will be treated CONFIDENTIALLY.

Your cooperation and effort in completing this questionnaire are greatly appreciated.

Section A. You and your school

1. Please indicate which subject you coordinate. *(Please tick one box only)*

English	☐ 1
Mathematics	☐ 2
Science	☐ 3

2. What are your other **roles and responsibilities** in the school?

3. Please indicate your gender. *(Please tick one box)*

Male ☐ **Female** ☐

4. Please indicate which **age group** you belong to? *(Please tick one box)*

21-30	☐ 1
31-40	☐ 2
41-50	☐ 3
51-60	☐ 4
Over 60	☐ 5

5. How many years have you been **teaching** altogether? ☐ **years**

6. How many years have you **taught at this school**? ☐ **years**

7. How many years have you been in your **current post**? ☐ **years**

8. How many members of staff **are you responsible for**? ☐

9. **Size of school** (number on roll):
(Please indicate how many pupils are on roll in each of the following phases)

Nursery	☐
Reception	☐
Years 1 & 2	☐
Years 3-6	☐

10. **School management type:** *(Please tick one box)*

Foundation school	☐
Local Authority	☐

11. How would you describe the **catchment area**? *(Please tick one box)*

Urban	☐ 1
Suburban	☐ 2
Inner-city	☐ 3
Rural	☐ 4

12. Please indicate the **range of pupil attainment** in your subject for each key stage, when compared with national expectations.
(Please tick one box in each column)

	Key Stage 1	Key Stage 2
Overall tendency towards high attainment	☐	☐ 1
Overall tendency towards low attainment	☐	☐ 2
Overall tendency towards the middle range of attainment	☐	☐ 3
Complete spread of attainment	☐	☐ 4

Section B. Using performance data

13. Does a member of staff in your school have **overall responsibility for analysing performance data**? *(Please tick one box)*

- Yes ☐
- No ☐
- Not sure ☐

If yes, what is their job title?

14. Which of the following types of **performance data are used** to analyse performance in your school. *(Please tick one box in each line)*

	We use this	We don't use this	I'm not sure
Key Stage 1 results	☐	☐	☐
Key Stage 2 results	☐	☐	☐
PANDA	☐	☐	☐
Autumn Package	☐	☐	☐
LEA-produced data	☐	☐	☐
School-produced data	☐	☐	☐
Baseline tests	☐	☐	☐
PIPS	☐	☐	☐
Other *(please specify)*	☐	☐	☐

15. We would like to know which **members of staff** in your school make use of the performance data. *(Please tick all boxes that apply)*

	Senior Managers 1	Assessment Coordinator 2	Heads of Year 3	Heads of Department 4	Class teachers 5
Key Stage 1 results	☐	☐	☐	☐	☐
Key Stage 2 results	☐	☐	☐	☐	☐
PANDA	☐	☐	☐	☐	☐
Autumn Package	☐	☐	☐	☐	☐
LEA-produced data	☐	☐	☐	☐	☐
School-produced data	☐	☐	☐	☐	☐
Baseline tests	☐	☐	☐	☐	☐
PIPS	☐	☐	☐	☐	☐
Other *(please specify)*	☐	☐	☐	☐	☐

16. What types of performance data does **your LEA provide**? *(Please tick one box in each line)*

	Yes	No	Not sure
Data for cluster groups	☐	☐	☐
Comparisons between your school and others in the LEA	☐	☐	☐
National comparisons	☐	☐	☐
Other (please specify)	☐	☐	☐

17. What additional sorts of data would you like **your LEA to provide**?

18. How **helpful** have you found the following types of performance data? *(Please tick one box in each line)*

	Very helpful 1	Helpful 2	Unhelpful 3	Very unhelpful 4	I don't use this 5
Key Stage 1 results	☐	☐	☐	☐	☐
Key Stage 2 results	☐	☐	☐	☐	☐
PANDA	☐	☐	☐	☐	☐
Autumn package	☐	☐	☐	☐	☐
LEA-produced data	☐	☐	☐	☐	☐
School-produced data	☐	☐	☐	☐	☐
Baseline tests	☐	☐	☐	☐	☐
PIPS	☐	☐	☐	☐	☐
Other *(please specify)*	☐	☐	☐	☐	☐

19. Please comment on **why** particular types of data have been helpful?
(please state which type(s) of data you are referring to)

20. We would like to know **what types of activities you use performance data to help inform.** *(Please tick all boxes that apply)*

Target setting for ...

The whole school	☐ 1
Year groups	☐ 2
Key Stage 1	☐ 3
Key Stage 2	☐ 4
Individual pupils	☐ 5
Pupils with Special Educational Needs	☐ 6
Gender groups	☐ 7
Ethnic groups	☐ 8
Other *(please specify)*	☐ 9

Planning and review activities

Improvement planning	☐ 1
Professional development	☐ 2
Curriculum planning	☐ 3
Lesson planning	☐ 4
Analysis of year-on-year performance	☐ 5
Target setting reviews	☐ 6
Reports to governors	☐ 7
Reports to parents	☐ 8
Other *(please specify)*	☐ 9

21. In general, have you encountered any **difficulties in using performance data**? *(Please tick one box)*

- Yes ☐
- No ☐

22. Please indicate **which types of performance data** have caused you difficulties. *(Please tick all boxes that apply)*

- Key Stage 1 results ☐ 1
- Key Stage 2 results ☐ 2
- PANDA ☐ 3
- Autumn Package ☐ 4
- LEA-produced data ☐ 5
- School-produced data ☐ 6
- Baseline tests ☐ 7
- PIPS ☐ 8
- Other *(please specify)* ☐ 9

23. Have the **difficulties you have encountered been caused by...**
(Please tick all boxes that apply)

Lack of training	☐ 1
Lack of time	☐ 2
Poor presentation of data	☐ 3
Receiving too little data	☐ 4
Lack of access to ICT facilities	☐ 5
Inappropriate ICT hardware	☐ 6
Being given data too late	☐ 7
Other *(please specify)*	☐ 8

24. If you have any **further comments** about these difficulties, please provide details below.

Section C. The support and training you receive

25. Do you receive **written guidance from your LEA** to support you to understand and use performance data? *(Please tick one box only)*

- Yes ☐
- No ☐

If yes, how helpful have you found this guidance? *(Please tick one box only)*

- Very helpful ☐ 1
- Helpful ☐ 2
- Unhelpful ☐ 3
- Very unhelpful ☐ 4

Please give your reasons

If no, would you like to receive written guidance? *(Please tick one box only)*

- Yes ☐
- No ☐
- Not sure ☐

26. Have you received any **training from your LEA** to support you to use performance data? *(Please tick one box only)*

- Yes ☐
- No ☐

If you have ticked 'No', please go to Question 29.

If yes, what form has your training taken? *(Please tick all boxes that apply)*

- Whole staff training (INSET) ☐ 1
- A 'one-off' course ☐ 2
- An on-going programme of support ☐ 3
- Other *(please specify)* ☐ 4

27. What **area(s)** of data analysis or use has your training **focused on?**

28. Do you feel that the training you have received has **met your needs**? *(Please tick one box only)*

Yes	☐ 1
No	☐ 2
In part	☐ 3
Not sure	☐ 4

Please give your reasons

Please go to Question 30.

29. **Do you feel you would benefit** from training provided by your LEA? *(Please tick one box only)*

Yes	☐
No	☐

If yes, what areas of understanding and/or use of performance data would you like to receive training in?

Section D. Your views about performance data

30. We would like to have **your views** on the following aspects of using performance data, as they apply in your school. *(Please tick one box in each line)*

	Strongly agree 1	Agree 2	Disagree 3	Strongly disagree 4	Don't know 5
Data is useful to help set targets	☐	☐	☐	☐	☐
Data is useful for curriculum planning	☐	☐	☐	☐	☐
Data is widely used by all staff in my school	☐	☐	☐	☐	☐
The school has good systems for collecting data	☐	☐	☐	☐	☐
The school has good systems for analysing data	☐	☐	☐	☐	☐
There is not enough helpful performance data in my school	☐	☐	☐	☐	☐
The school has good systems for disseminating data to staff	☐	☐	☐	☐	☐
Data is given to me at the right time to enable me to use it effectively	☐	☐	☐	☐	☐

31. If you wish to make any **further comments or recommendations** about using performance data, please detail them below.

Appendix E: Secondary school head of department's questionnaire

The LEA role in Data Collection, Analysis and Use and its Impact on Pupil Performance

Survey of Heads of Department in Secondary Schools

Your Local Education Authority (LEA) has agreed to participate in this research project, which aims to explore the ways in which LEAs support schools to use performance data. A questionnaire is being sent to mathematics, science and English coordinators/Heads of Department in a sample of secondary and primary schools in eight LEAs. Your responses are very important in helping us to understand how performance data are used at departmental and school level. They will also assist us in identifying examples of good practice and the key issues and problems associated with the ways in which LEAs support schools to understand and use performance data.

We assure you that your answers will be treated CONFIDENTIALLY.

Your cooperation and effort in completing this questionnaire are greatly appreciated.

Section A. You and your school

1. Please indicate which department you are in charge of. *(Please tick one box only)*

English	☐ 1
Mathematics	☐ 2
Science	☐ 3

2. What are your other **roles and responsibilities** in the school?

3. Please indicate your gender. *(Please tick one box)*

Male ☐ **Female** ☐

4. Please indicate which **age group** you belong to? *(Please tick one box)*

21-30	☐ 1
31-40	☐ 2
41-50	☐ 3
51-60	☐ 4
Over 60	☐ 5

5. How many years have you been **teaching** altogether? ☐ **years**

6. How many years have you **taught at this school**? ☐ **years**

7. How many years have you been in your **current post**? ☐ **years**

8. How many members of staff **are you responsible for**? ☐

9. How many teachers are the **in your department** (including yourself)? ☐

10. **Size of school** (number on roll): *(Please tick one box)*

Small (<600)	☐
Medium (600 - 1,000)	☐
Large (> 1,000)	☐

11. **School management type:** *(Please tick one box)*

Foundation school	☐
Local Authority	☐

12. **Gender of students** *(Please tick one box)*

Coeducational ☐ **Boys** ☐ **Girls** ☐

13. How would you describe the **catchment area**? *(Please tick one box)*

Urban	☐ 1
Suburban	☐ 2
Inner-city	☐ 3
Rural	☐ 4

14. Please indicate the **range of pupil attainment** in your subject for each key stage, when compared with national expectations.
(Please tick one box in each column)

	Key Stage 3	Key Stage 4	
Overall tendency towards high attainment	☐	☐	1
Overall tendency towards low attainment	☐	☐	2
Overall tendency towards the middle range of attainment	☐	☐	3
Complete spread of attainment	☐	☐	4

Section B. Using performance data

15. Does a member of staff in your school have **overall responsibility for analysing performance data**? *(Please tick one box)*

Yes	☐
No	☐
Not sure	☐

If yes, what is their job title?

16. Which of the following types of **performance data are used** to analyse performance in your school. *(Please tick one box in each line)*

	We use this	We don't use this	I'm not sure
Key Stage 2 Results Analysis	☐	☐	☐
Key Stage 3 Results Analysis	☐	☐	☐
GCSE results	☐	☐	☐
PANDA	☐	☐	☐
Autumn Package	☐	☐	☐
CATs scores	☐	☐	☐
MIDYIS	☐	☐	☐
YELLIS	☐	☐	☐
LEA-produced data	☐	☐	☐
School-produced data	☐	☐	☐
Other *(please specify)*	☐	☐	☐

17. We would like to know which **members of staff** in your school make use of the performance data. *(Please tick all boxes that apply)*

	Senior Managers 1	Assessment Coordinator 2	Heads of Year 3	Heads of Department 4	Class teachers 5
Key Stage 2 Results Analysis	☐	☐	☐	☐	☐
Key Stage 3 Results Analysis	☐	☐	☐	☐	☐
GCSE results	☐	☐	☐	☐	☐
PANDA	☐	☐	☐	☐	☐
Autumn Package	☐	☐	☐	☐	☐
CATs scores	☐	☐	☐	☐	☐
MIDYIS	☐	☐	☐	☐	☐
YELLIS	☐	☐	☐	☐	☐
LEA-produced data	☐	☐	☐	☐	☐
School-produced data	☐	☐	☐	☐	☐
Other *(please specify)*	☐	☐	☐	☐	☐

18. What types of performance data does **your LEA provide**? *(Please tick one box in each line)*

	Yes	No	Not sure
Data for cluster groups	☐	☐	☐
Comparisons between your school and others in the LEA	☐	☐	☐
National comparisons	☐	☐	☐
Other (please specify)	☐	☐	☐

19. What additional sorts of data would you like **your LEA to provide**?

20. How **helpful** have you found the following types of performance data? *(Please tick one box in each line)*

	Very helpful 1	Helpful 2	Unhelpful 3	Very unhelpful 4	I don't use this 5
Key Stage 2 results	☐	☐	☐	☐	☐
Key Stage 3 results	☐	☐	☐	☐	☐
GCSE results	☐	☐	☐	☐	☐
PANDA	☐	☐	☐	☐	☐
Autumn package	☐	☐	☐	☐	☐
CATs scores	☐	☐	☐	☐	☐
MIDYIS	☐	☐	☐	☐	☐
YELLIS	☐	☐	☐	☐	☐
LEA-produced data	☐	☐	☐	☐	☐
School-produced data	☐	☐	☐	☐	☐
Other *(please specify)*	☐	☐	☐	☐	☐

21. Please comment on **why** particular types of data have been helpful?
(please state which type(s) of data you are referring to)

22. We would like to know **what types of activities you use performance data to help inform.** *(Please tick all boxes that apply)*

Target setting for ...

The whole school	☐ 1
Year groups	☐ 2
Key Stage 3	☐ 3
Key Stage 4	☐ 4
Individual pupils	☐ 5
Pupils with Special Educational Needs	☐ 6
Gender groups	☐ 7
Ethnic groups	☐ 8
Other *(please specify)*	☐ 9

Planning and review activities

Improvement planning	☐ 1
Professional development	☐ 2
Curriculum planning	☐ 3
Lesson planning	☐ 4
Analysis of year-on-year performance	☐ 5
Target setting reviews	☐ 6
Reports to governors	☐ 7
Reports to parents	☐ 8
Other *(please specify)*	☐ 9

23. In general, have you encountered any **difficulties in using performance data**? *(Please tick one box)*

Yes	☐
No	☐

24. Please indicate **which types of performance data** have caused you difficulties. *(Please tick all boxes that apply)*

Key Stage 2 results	☐ 1
Key Stage 3 results	☐ 2
GCSE results	☐ 3
PANDA	☐ 4
Autumn Package	☐ 5
CATs scores	☐ 6
MIDYIS	☐ 7
YELLIS	☐ 8
LEA-produced data	☐ 9
School-produced data	☐ 10
Other *(please specify)*	☐ 11

25. Have the **difficulties you have encountered been caused by**...
(Please tick all boxes that apply)

Lack of training	☐ 1
Lack of time	☐ 2
Poor presentation of data	☐ 3
Receiving too little data	☐ 4
Lack of access to ICT facilities	☐ 5
Inappropriate ICT hardware	☐ 6
Being given data too late	☐ 7
Other *(please specify)*	☐ 8

26. If you have any **further comments** about these difficulties, please provide details below.

Section C. The support and training you receive

27. Do you receive **written guidance from your LEA** to support you to understand and use performance data? *(Please tick one box only)*

- Yes ☐
- No ☐

If yes, how helpful have you found this guidance? *(Please tick one box only)*

- Very helpful ☐ 1
- Helpful ☐ 2
- Unhelpful ☐ 3
- Very unhelpful ☐ 4

Please give your reasons

If no, would you like to receive written guidance? *(Please tick one box only)*

- Yes ☐
- No ☐
- Not sure ☐

28. Have you received any **training from your LEA** to support you to use performance data? *(Please tick one box only)*

- Yes ☐
- No ☐

If you have ticked 'No', please go to Question 31.

If yes, what form has your training taken? *(Please tick all boxes that apply)*

- Whole staff training (INSET) ☐ 1
- A 'one-off' course ☐ 2
- An on-going programme of support ☐ 3
- Other *(please specify)* ☐ 4

29. What **area(s)** of data analysis or use has your training **focused on?**

30. Do you feel that the training you have received has **met your needs**? *(Please tick one box only)*

Yes	☐ 1
No	☐ 2
In part	☐ 3
Not sure	☐ 4

Please give your reasons

Please go to Question 32.

31. **Do you feel you would benefit** from training provided by your LEA? *(Please tick one box only)*

Yes	☐
No	☐

If yes, what areas of understanding and/or use of performance data would you like to receive training in?

Section D. Your views about performance data

32. We would like to have **your views** on the following aspects of using performance data, as they apply in your school. *(Please tick one box in each line)*

	Strongly agree 1	Agree 2	Disagree 3	Strongly disagree 4	Don't know 5
Data is useful to help set targets	☐	☐	☐	☐	☐
Data is useful for curriculum planning	☐	☐	☐	☐	☐
Data is widely used by all staff in my school	☐	☐	☐	☐	☐
The school has good systems for collecting data	☐	☐	☐	☐	☐
The school has good systems for analysing data	☐	☐	☐	☐	☐
There is not enough helpful performance data in my school	☐	☐	☐	☐	☐
The school has good systems for disseminating data to staff	☐	☐	☐	☐	☐
Data is given to me at the right time to enable me to use it effectively	☐	☐	☐	☐	☐

33. If you wish to make any **further comments or recommendations** about using performance data, please detail them below.

The LGA Educational Research Programme is carried out by the NFER. The research projects cover topics and perspectives that are of special interest to LEAs. All the reports are published and disseminated by NFER, with separate executive summaries.

The summaries are available free of charge both on paper and on the NFER website – **www.nfer.ac.uk**

A selection of recent publications arising from the LGA Educational Research Programme

The Impact of Specialist and Faith Schools on Performance (LGA Research Report 28)

Sandie Schagen, Deborah Davies, Peter Rudd and Ian Schagen

Specialist and faith schools tend to be a popular choice with parents, obtaining good results in national league tables. Questions are sometimes asked as to whether this is due to their status as specialist/faith schools, or to other factors. This study provides a clear and comprehensive critical review of the relevant literature and assesses the effectiveness (in value-added terms) of specialist and faith schools.

Published in 2002 ISBN 1 903880 19 X Price: £10.00

Continuing Professional Development: LEA and School Support for Teachers (LGA Research Report 23)

Sandra Brown, Suzanne Edmonds and Barbara Lee

An investigation into the current and potential role of the LEA in supporting schools to provide professional development for their staff, as part of their efforts to raise achievement, formed the basis of this report.

Published in 2001 ISBN 1 903880 09 2 Price: £15.50

Evaluating School Self-evaluation (LGA Research Report 21)

Deborah Davies and Peter Rudd

School self-evaluation, supported by local education authorities, can be a major influence upon teachers' professional development and on the quality of teaching and learning. This NFER study shows that school self-evaluation takes many forms and can have a variety of purposes, but when it is implemented strategically and purposefully, it can be a central driving force for school improvement.

Published in 2001 ISBN 1 903880 03 3 Price: £12.00

Making a Difference: Early Interventions for Children with Autistic Spectrum Disorders (LGA Research Report 22)

Jennifer Evans, Frances Castle, Shanee Barraclough and Glenys Jones

This report attempts to ascertain the level of identification of autistic spectrum disorders for younger children and their types of provision, focusing on: parental support; inter-agency communication and collaboration. It also looks at specific interventions offered by LEAs and health authorities and the ways in which children's progress was tracked and decisions made about the effectiveness of the interventions offered. Recommendations concerning inter-agency communication and collaboration between providers of care for these children are included.

Published in 2001 ISBN 1 903880 05 X Price: £16.00

Multi-agency Working: A Detailed Study (LGA Research Report 26)

Mary Atkinson, Anne Wilkin, Alison Stott, Paul Doherty and Kay Kinder

This report gives the findings from the final phases of a study of multi-agency working. It includes different models: their rationale and development; their impact; and the challenges and key factors in the success of multi-agency initiatives.

This research is clearly linked to the current Government agenda on 'joined-up thinking', and is therefore of particular interest to personnel within Education, Health and Social Services agencies.

Published in 2002 ISBN 1 903880 13 0 Price: £19.50

For further information on any of the above projects or the publications, please contact:

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