Chapter 8 Conclusions

Referring back to my initial aims in taking up this research, I believe I have been able to consider the examination results achieved by pupils at the school in a much more meaningful and helpful way than had been possible previously. Using indicator information allowed for a value-added appraisal of the school's performance, attainment in relation to prior ability of the pupils.

That this research was limited in using a single indicator of pupil potential, a measure of prior learning, will be seen by some as a limiting factor but a review of the literature, which included more complicated multi-level models, confirmed that the largest contributory factor to variation in examination outcomes was the prior attainment of the pupils as measured by some previous test. This measure will subsume many of the other contributory factors such as parental education, financial deprivation and so on. That is not to diminish the importance of multi-level analysis of school performance but for schools themselves, on the basis of fitness for purpose, ordinary least squares regression analysis of examination performance on a prior test result, is helpful and can offer revealing insights into school, department and pupil performance.

Strong links between the indicator data, Edinburgh Reading Test scores for GCSE and GCSE mean grades for A level, were established using correlation techniques. The validity and reliability of these indicator data were also established at the level of the school and, with some exceptions, at the level of individual subject areas. The larger samples produced by using data from other schools and the duration of the research period, over several years' data, were helpful in this respect.

The use of correlation as a basis for establishing the effectiveness of subject departments and teaching groups was explored and found to have flaws. Whilst it is useful in establishing the strength of any relationship between indicator data and outcome data, the strength of the correlation is no measure

of effectiveness per se. Indeed, in the case of small subject areas or school departments those which are most effective may have the lowest correlation coefficients because pupils, who would not otherwise have been expected to, gain excellent results. The same can also be true of the least effective departments. It is the level of performance in examinations relative to the prior level of attainment shown by the test results which is indicative of effectiveness. Issues concerned with correlation and the presentation of information to a Head of Subject were usefully explored in the second case study regarding the Head of French. Teachers' lack of understanding of the concept of correlation, its uses and limitations, can be an impediment to their willing use of value-added data.

In subjects, such as Art, Drama and Music for example, the ERT data were shown to be poor indicators of likely examination success at GCSE level because the correlation between results in these subject areas were much weaker than in others. The reasons for this are likely to be the different skills assessed by the GCSE examinations in these subject areas and the different assessment methods. In order to measure the progress made by pupils in these subjects and the effectiveness of the departments other indicative data would have to be sought out. What that data could be was not addressed in this research.

Gender effects were explored and found to be significant. This situation is reflected at a national level (SCAA, 1996) but shown in this research to be evident even when comparing the performance of pupils with different gender but similar prior ability scores. There is also the suggestion from looking at the indicator data for the respective genders that girls are already progressing more rapidly by the time they take the indicator test than boys. Consideration of the graphs in Appendix D shows quite clearly that in these schools girls tend to have higher average ERT scores than the boys. Reasons why this might be so have not been gone into in this research.

The potential distortion to a school's performance figures, particularly such measures as percentage of pupils achieving five or more GCSEs at grade C or above, when there is an imbalance in the number of girls and boys in a year cohort was highlighted and, linked to this, the need to look at the distribution of pupil ability by gender within the year cohort. The case study of School X was particularly illuminating in this respect. The potential for being misled as to a year cohort's potential by their 'mean' ability was made very clear.

Issues to be addressed when introducing the analysis data

A school's most important resource are its teachers. It is vital to any school improvement project based upon school effectiveness data that the teachers accept and are prepared to use that information. Teachers, in my experience, generally relate to people rather better than they do to figures and so are often wary of statistics. If the statistics can be made personal, in that they relate to individuals rather than large groups, then I have found teachers from the Headteacher down far more ready to take notice of what the figures indicate.

The introduction of the data to the schools and their staff is absolutely critical in persuading them to make use of the information in a formative way.
One Headteacher was so wary of how his staff would react that he did not wish anyone to know that he had such information. This attitude delayed the school in making any real use of the data until a new Headteacher was appointed.

Staff will feel threatened by the information on performance, seeing it as a threat to their professional integrity unless the information is presented sensitively and in a way perceived to be supportive of the role of the teacher, an aid to getting the best out of the pupils. It is up to the managers within the school to emphasise the positive, the achievement of the least able as well as that of the most able pupils and with that the part the teachers have played in maximising that achievement. Quantitative data used in the ways I have

described, with information on prior attainment as well as summative examination performance, allows this to happen with a degree of objectivity not possible previously.

Credibility and utility of the information provided must be established before busy teachers will take the time to use it. Where the data confirm their own professional opinions for the most part staff become more comfortable with the information and are then more ready to investigate the odd exception, the pupil test score that does not concur with the teacher's perception of pupil potential or current quality of work.

Issues to do with correlation, its uses and its limitations as discussed at the start of this chapter, are crucial to a staff's understanding of the data and its potential for helping the teaching process.

Some of the uses of this form of analysis of examination results are to do with pupil counselling and target setting, as will be described in the next section regarding what has happened at Sexey's School, whereas others are more to do with understanding examination results and how they were achieved, as in the case of School X in the case studies in *Chapter 6*.

Some Heads and Deputies now have explicit references in their job descriptions to school improvement, particularly examination results, consideration of pay rises being dependent upon improvement. Heads need some objective information to be able to handle these pressures, evidence with which to put a case.

The Headteacher at School X had to explain apparently large discrepancies between the performance of boys and girls in his school. The Headteacher at Sexey's was able to prepare the governing body for a drop in the percentage of GCSE grades A*-C in 1995 some three and a half years earlier when the ERT

results of that year cohort were known. The governors of the school were made aware that there was not a sudden drop in the standard of teaching, leading to 63% of the pupils gaining five or more GCSEs at grades A*- C in 1995 compared to 78% and 80% in 1993 and 1994 respectively, but the ability of the year cohort in 1995 was not what it had been in the previous two years. The fact that the Headteacher had been saying that this would be the case prior to the event lent strength to his argument rather than appearing as a *post hoc* excuse.

Speed of data analysis is critical in the process of evaluating examination results and using the information gleaned thereby to inform the processes through which current pupils are progressing. Staff need to consider the performance of individuals and the parts they played in producing the overall performance of department and school when names, faces and characteristics are still fresh in their minds. On numerous occasions Headteachers and Deputies have commented that rapid receipt of the information for review purposes was essential. Their estimation of the importance of this aspect is clearly demonstrated by the willingness of the Somerset schools with whom I work to pay for my analysis of their results, knowing that if they were prepared to wait they would receive almost identical information, produced using my software, from the LEA at no charge to themselves.

The school managers then go through a detailed review of examination results with the Heads of subject considering the performance of the department as a whole and the individual pupils involved. Results are related to expectations and targets are set for current pupils as part of the review process. Having information on the prior attainment of pupils, in the form of standardised test scores such as the ERT, known and demonstrated to have a strong relationship with success at GCSE level, allows the reviewers to praise achievement even when the overall attainment was lower than previous years or conversely be critical of performance when attainment did not match expectations.

Some schools are now in their eighth year of using the value-added data I provide. The number of schools involved has risen from the initial 6 schools to 29 schools dealing with me directly in 1996 plus all the Somerset secondary schools serviced by the LEA using my software under licence.

What has happened at Sexey's School

Probably the single biggest change in general teaching brought about by the introduction of value-added performance information has been the use made of indicative pupil data. By this I mean the use of pupil test results, prior examination results, to consider current pupil performance in relation to likely examination expectations.

Pupils are now tested in Years 7 & 9 with the Cognitive Abilities test and in Year 8 with the Edinburgh Reading Test. The Maths and English departments also apply their tests, NFER Maths and London Reading Test respectively. The incoming sixth formers have their GCSE results collated and analysed before they start their A level courses and are also tested using the NFER AH5 test. An important element in this enthusiasm for testing is that the information collected from the tests is now used whereas previously it was not.

There is now much closer monitoring of pupil work in relation to expected outcomes based on target grades set using the knowledge of previous performances by pupils with similar test scores. Staff expectations are more realistic and where performance does not match expectations then reasons are sought. These reasons could be social or family problems impinging upon school work; medical problems, such as eyesight or hearing, which had not been spotted; learning difficulties, such as dyslexia which would not necessarily have been highlighted by a standardised test but would impinge on general academic progress; or even personality clashes between pupil and teacher. Many of these problems can be dealt with and prevented from

impeding learning if spotted early enough. The mismatch of an indicator test score "prediction" and general academic progress can serve to highlight such problems earlier rather than later.

There is a greater awareness of pupil Special Educational Needs (SEN) and the part that the SEN department can play in tackling particular learning difficulties identified using the various tests. With this greater awareness comes a more accurate appraisal of pupil effort in relation to educational attainment and appropriate encouragement.

Annual reviews of pupil progress in relation to targets (as discussed on pages 192 and illustrated in *Figure 7.19*) based on the performance of combined schools' samples for each examination subject, are conducted with input from each subject teacher. General advice given to subject teachers at staff meetings prior to the review is that as Sexey's pupils generally perform better than the average for other schools the staff should expect more of them than that.

A meeting is held with the Key Stage Co-ordinator, the Form Tutors, SEN department and Boarding member of staff to consider each pupil's progress and the information is fed back to all teachers of the pupil by way of notes, private discussions or more general information at Staff meetings. Specific advice can be given on strategies to aid learning, such as focus on reading or spelling skills, sitting the pupil nearer the board to see more easily, ensuring appropriate work is set to aid concentration, advice on coping with behavioural difficulties, provision of pupil mentors to help with specific aspects of a subject area, and so on. Information is shared rather than subject staff operating in isolation, unaware of the pupil's progress in other subject areas.

Occasionally a recommendation is given to ignore a particular test score because it is regarded by those conducting the review as not reflecting the potential of the pupil concerned. An actual example will illustrate my point.

One particular girl came to Sexey's with learning difficulties and a low ERT stage 3 score from her primary school. She had particular difficulty with reading skills and was given specific help on a one to one basis with these. Her average score on a Cognitive Abilities test was 86, the test being standardised for a mean of 100. In the ERT sat at approximately the same time in Year 8 she achieved a score of 85, both scores clearly indicating she had special educational need and attracting financial help from the LEA to pay for extra tuition. Her prospects at GCSE, as indicated by these scores, were likely to be E grades or thereabouts. However, this girl worked incredibly hard, her motivation and determination being remarkable and commented on by all staff who taught her. With lots of encouragement and huge amounts of work on her part she improved sufficiently to achieve level 5 in her Key Stage 3 assessments and then went on to gain an A*, 2 As and 6 Bs in her GCSEs. An outstanding achievement for someone of her initial educational attainment. She is now studying A levels with great success.

Teaching staff were aware of her low indicator scores and her learning difficulties but her character, attitude and response to help clearly showed her teachers that she was capable of doing better than her initial test scores indicated. The test scores were not ignored but were very much secondary to more up to date information based upon the teachers' assessments of her current work and potential. This is important because it emphasises that standardised test results are not the be all and end all of education, a single test result can be flawed and that teachers should not be slaves to such information. Individuals do count and there will always be exceptions. Such an attitude actually encourages teachers to use the test information safe in the knowledge that their opinions matter.

In the Sixth form better advice, based on prior tests and especially GCSE mean grades, is given to prospective candidates on the difficulty of the subjects and the pupils' suitability for their preferred courses. Staff were taking on pupils

for A level courses who were unsuited academically and likely to fail. Pupils who are determined to follow the course of their choice can be advised of their prospects, based upon the performance of previous candidates with similar qualifications, and allowed to start subject to continual review and satisfactory progress. This arrangement benefits both pupils and teachers. Pupils can be allowed to start a course knowing that they will be monitored closely and are not refused entry without a chance. If the course proves unsuitable then provision can be made to change direction quickly before too much time is lost.

Parents are made aware of likely difficulties right away and are not living under the illusion that, having made it into the Sixth Form, everything will be smooth sailing or that all courses are equally easy / difficult for all pupils. Having been warned of potential problems, should they occur then they do not come as a complete surprise and parents can be supportive of their child and the school.

Teachers have some objective evidence to warn parents and so pre-empt potential conflict whilst at the same time they can give pupils the chance to try the subject. If everything works out for the pupil and they progress well, then all well and good. If the course proves too difficult for the pupil, the evidence from close monitoring of work and work ethic should be sufficient to convince all parties that a change of course is advisable. This a far more acceptable practice than allowing a problem to develop and waste the study time that could be given to another subject area or even to alternatives to school.

For some pupils the choice of A level subject has less relevance than the potential to gain good grades which will be the "currency" they need to go on to the next stage of their education or career. Knowing that some subject departments within school are more capable of coping with pupils who have low GCSE means than others offers the Heads of Sixth Form the option of steering less well qualified candidates into subjects where they will be more

likely to achieve the grades they need.

The flexibility of allowing pupils to try subjects subject to the meeting of conditions is important and prevents both pupils and staff being put off the good general guidance offered by value-added data. Parents too find the objective data of standardised testing and analysis of previous examination results helpful in coming to terms with the prospects of their children. The heat can be taken out of potentially confrontational interviews by referring to objective data and removing the possible charge of "personalities" getting in the way of constructive discussion.

There has developed in Sexey's, no doubt aided by its small size and boarding element, a very strong mix of the objective, quantitative, statistical information about pupils and their academic progress and potential combined with a very caring, supportive pastoral structure which together have the joint focus of ensuring the very best learning experience for every pupil in the school at every stage of their education.

Subject department review, looking at effectiveness in pupil examination results, is now regarded as being much fairer when subjects are compared, like with like, French department with French departments in other schools which have similar pupils. Staff, in a truly professional manner, welcome this form of comparison in preference to the misinformed or uninformed appraisal of their departments prior to the use of value-added data. There is a much wider understanding of the different difficulty levels in different subject areas.

There is also a greater understanding on the part of governors. They now understand that examination performance largely reflects pupil ability, and know in advance when examination results for the school are likely to dip or rise, because of prior knowledge concerning the aptitude of year cohorts going through school.

Most importantly, staff are able to tailor their teaching to the needs of the individual pupils in a much more informed way by using their knowledge of the previous performance of other pupils with similar test scores.

There has developed a culture of information. Sexey's staff attend meetings with subject staff from other schools and report back how much other schools are using ERT results as indicative data, which in turn encourages them to consider ERT scores of the pupils they teach.

The involvement of more schools in providing data for the research has been extremely useful allowing the findings in one school to be tested in other schools and in the larger combined data set. The larger number of pupils allowed for research into separate subject areas and gender effects. That the data were provided over a number of years allowed for the observance of trends and patterns in performance, such as the link between examination performance and prior attainment.

The sharing of examination results and prior test data by schools, anonymously, was not only very helpful for schools in comparing departmental results but almost uplifting at a time when schools were being encouraged to pursue the ethos of the market place and compete against each other.

There is no doubt that schools which have been involved in my analysis of their data over a number of years have improved the prospects of their pupils. Whether this improvement is a direct result of being involved would be difficult to prove and I rather suspect that their involvement is indicative of their management's wish to improve. All the schools involved wished to be so and therefore are to some extent a self-selected sample. It is also noticeable that schools' involvement often coincided with the recent appointment of a new Headteacher who could use the opportunity to instigate a new programme in school. A number of Deputy Heads from schools I worked with on gaining

promotion to Headships of new schools chose to involve their new schools where possible.

It is one thing to point out the effectiveness, or otherwise, of a school but it is another to actually bring about improvement. Other than in Sexey's school I have not been privy to the processes set into action by other schools, except on a relatively superficial level. All schools have shared the analysis data with their Heads of Subject, most have instituted review meetings and departmental targets. Some schools have taken the target setting process to the level of individual pupils and pupil meetings with tutors to discuss progress in relation to targets for their individual subjects. Other strategies could be said to have more to do with good teaching practice than being specifically related to the performance data. Reviews of curriculum provision and advice to pupils and staff on subject option selection at GCSE and A level related to prior test information and indicative data have also figured in schools' strategies.
It would be an interesting extension of this research to enquire more deeply into schools' strategies for improvement.

Weighing a pig more often does not make it fatter, as the saying goes, but by weighing it at regular intervals the farmer can at least see whether any changes to the feed have resultant effects upon the pig's weight gain. In order for a school to know whether it is improving pupils' chances of success in external examinations it needs to consider their progress in relation to their prior attainment and in relation to the progress made by previous pupils with similar prior attainment. School effectiveness research can provide the measures whereby school improvement strategies can be judged. The two concepts are not separate entities but parts of the review cycle necessary for schools to ensure their pupils have the best opportunity to succeed in examinations.

I am very much aware that there is more to education than examination results. School improvement can and should be applied to very many more aspects of

school life. Respect for society, good citizenship, pupil welfare and happiness are just some of the very many issues addressed daily in schools. I do not wish to ignore any of these issues but the initial motivation for this research was the consideration of my own school's performance in examination results and this area has been the focus of my work.

School and pupil effectiveness data can be used in a formative way for the improvement of education processes operating within schools. Establishing school effectiveness and instigating school improvement should not be regarded as separate activities, but part of the common purpose of giving our children the best educational experience possible.

The establishment of valid and reliable measures of school effectiveness is both a start and an essential monitoring tool if one is to explore the processes contributing to pupil examination success in a proper evaluative cycle.