



- Using
 - Data
 - for
 - Monitoring
 - and
 - Target
 - Setting
-
- a practical guide for teachers

Ray Sumner & Ian McCallum



**Also available as a printed book
see title verso for ISBN details**

Using Data for Monitoring and Target Setting

Using Data for Monitoring and Target Setting is a clear and practical guide for teachers and school administrative staff that shows how to use spreadsheets to create orderly records of assessment. These can then be used for the sort of statistical analyses which are now being demanded.

This guide includes

- lots of practical examples
- step-by-step instructions on how to obtain the data you want
- simple advice on how to use Excel
- pictures of the actual screens you will be using.

No prior experience is necessary. Even the most technophobic teacher will find this easy to follow, but the experienced manager will also have something to learn. The techniques covered will be complementary to the data now required by the LEAs, DfEE and school governors.

Ray Sumner has worked in education for many years, both as a teacher and a researcher. He is the author of *The Role of Assessment in Schools*.

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Using Data for Monitoring and Target Setting

A Practical Guide for Teachers

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Contents

Aims of the Handbook	1
<i>Pressures on schools and good practice</i>	1
<i>Objectives of the Handbook</i>	1
<i>What you will be able to do</i>	2
<i>Targets, monitoring and assessment</i>	2
<i>How the Handbook is organised</i>	4
Part 1: First Steps with Excel	5
<i>Entering pupil records</i>	6
<i>Saving your work</i>	7
<i>Some basic operations</i>	9
Making Sense of Pupil Performance Figures	15
<i>Creating a histogram</i>	15
<i>Comparing two or more sets of data</i>	19
How Can We Describe Performance?	22
<i>Calculating percentiles; quartiles, median, mode</i>	22
<i>Comparing the performance of several schools</i>	26
<i>How can we combine marks?</i>	27
<i>The spread of marks; average deviation, variance, standard deviation</i>	28
How Can We Investigate the Relationships between Sets of Marks?	30
<i>The Pearson product moment correlation coefficient, interpretation and prediction</i>	33
Confidence in Sample Estimates	36
<i>The population mean</i>	36
<i>Difference between group means</i>	37
<i>The contingency table</i>	38
Creating an Expectancy Table	40
Part 2A: Scales and their Interpretation	43
<i>Raw scores</i>	43

<i>Percentages</i>	47
<i>Age-equivalent scales</i>	48
<i>Centiles</i>	49
<i>Standardised scores</i>	50
<i>Standardised age scores</i>	54
Part 2B: Handling Test Data	60
<i>Graphic representation</i>	61
<i>Mean, standard deviation and standard error of the mean</i>	62
<i>Interpreting individual scores</i>	64
<i>Comparing two groups of pupils</i>	68
<i>Comparing two scores for an individual</i>	71
<i>Following up test results: predicting from test data</i>	73
Appendix 1	83
<i>Sample data for two classes with 68 pupils—boys</i>	83–84
<i>Sample data for two classes with 68 pupils—girls</i>	84–85
Appendix 2	86
<i>Sample data for two classes with 68 pupils—boys (numeric codes)</i>	86–87
<i>Sample data for two classes with 68 pupils—girls (numeric codes)</i>	87–88
Appendix 3	89
<i>Reception pupil performance and contextual data from 61 schools</i>	89
Index	92

What You Need to Use This Handbook

You need a PC with Excel Version 7 and WORD Version 7 (or Versions 2 and 4, respectively).

Aims of the Handbook

PRESSURES ON SCHOOLS AND GOOD PRACTICE

Schools are obliged by law to set targets vetted by the local education authority (LEA) to ensure that they are sufficiently ambitious. Publication adds pressure to meet ever higher expectations. The crude standard assessment tasks (SATs), General Certificate of Secondary Education (GCSE) and A level tables and the many LEA systems for 'value added' analyses all provide for comparisons between schools. Some schemes take into account circumstances related to pupils' school and test performance, so to an extent are 'fairer'. The questions that schools are called on to answer are *How well have the pupils done by the end of a Key Stage?* and *Have the pupils made the progress they ought?* It is obvious to us that conscientious teachers and well-run schools have always asked these questions. Both are difficult to answer, especially with limited means for organising and analysing the varied data which may be of relevance.

Effective schools use a variety of methods for monitoring pupils' attainments. Most rely on teachers' assessments; many use standardised measures to gauge pupils' abilities or other attributes, particularly for special needs diagnosis and guidance on course choice. Good practice, we believe, goes beyond using these assessments for individual pupils; it extends to looking critically at group progress, in order to aid curriculum review, teaching and school development. Data collected for the LEA scheme might be of use to schools for their own purposes, which may well complement the government's and the LEA's. But schools should have a sound basis to set targets which satisfy governors, heads and teachers as to their validity. Without the capacity to carry out their own analyses, schools inevitably relinquish a degree of control. The Handbook aims to enhance this capacity.

OBJECTIVES OF THE HANDBOOK

- 1 To introduce the reader to data handling in Excel via a series of staged exercises.
- 2 To show teachers and support staff how to use computing techniques to organise the data they have and to conduct relevant statistical analyses.

- 3 To provide ready access to explanations of the statistical methods by the use of, in most cases, actual pupil and school data. We expect users to develop understanding of the methods and to acquire insights into applications for their own schools.
- 4 To give teachers the confidence to try various statistical methods as aids for enhancing their own work with pupils and to be impartial when evaluating analyses conducted by outside agencies.
- 5 To help schools to carry out analyses of data for their own purposes, principally in support of pupils' attainments. Also to indicate how analyses can be used in school evaluation and to fulfil the legal obligations to set school targets annually.

WHAT YOU WILL BE ABLE TO DO

When you have worked through the examples, you will be able to

- accumulate data from assessments and other sources in well-ordered files to derive more meaning from the data as they accumulate
- conduct accurate analyses of selected variables
- choose the analyses best suited to your purposes
- appreciate the basis for the statistics you calculate
- interpret the statistics in the light of your knowledge of the pupils, school characteristics and feedback from LEA or national systems
- review the progress of individual pupils and discuss targets with them
- appraise particular factors which may affect aspects of pupil attainment and school effectiveness
- engage in setting feasible whole school targets
- present information to parents, governors and teachers which is informative and accurate.

TARGETS, MONITORING AND ASSESSMENT

We perceive that a culture change is being forced on schools. Customarily, assessment was seen by teachers as focused on the pupil's learning as mediated by the teacher. Admittedly, external policies intervened at certain points in time; for transfer and selection, allocation of LEA resources, identification of special educational needs (SEN) pupils, accreditation and accountability. But internal policies were more central, such as to give feedback to pupils on their learning (attainments), diagnose pupils' learning problems, pinpoint specific difficulties, group pupils for teaching, provide guidance on course choice and study methods, and evaluate curricula for improvement. Our concern is that sound internal policies should not be abandoned in order to service the external demands.

Our belief is that both sets of policies can be met by using computing facilities to make selective use of assessment data. Schemes for departments or years should identify those assessments which enable the periodic monitoring of attainments. The marks or grades for these should all be recorded on computer file(s). Certain additional assessments may be crucial, unless tests provided by the LEA are apt, such as of reasoning ability, language skills, etc. Also, whenever possible, each pupil's previous Key Stage (KS) level(s) should be recorded. By working in this way, schools will have

data available for a range of (monitoring) procedures for appraising year groups or departments, classes within years, and individuals. Targets for external use should draw on the pool of information from monitoring analyses.

Examples of questions you might answer by using the methods we outline are

- How do we keep pupils' assessment records on computer file to be able to get more meaning from the data as they accumulate?
- Can we summarise measures accurately for ease of understanding?
- When are predictions of pupil 'success or failure' justified?
- What would we accept as evidence that the school has been effective?
- How should we evaluate the targets for the school proposed by the LEA?
- What particular circumstances would the governors recognise as influencing the standards achieved by the pupils?
- How may the school management team (SMT) and governors make progress checks each year?

Recent publications have confirmed our view that targets should be based upon systematic monitoring carried out at various stages as each cohort progresses through school. A particular difficulty is the change within a cohort as some pupils leave and others join. For example, a group of 56 pupils in Year 3 had 58 by Year 6 but included only 31 of the original group. Consequently, about 60 per cent of the pupils were included in the evaluation of attainment in relation to 'abilities' and KS2 levels. Two ways for dealing with this problem are first, to accumulate data year by year and occasionally aggregate them for comparable groups, and second, to give intermediate assessments when the interval between earlier and later results is more than 18 months to 2 years.

The descriptive statistics produced by monitoring will inevitably reveal the variability inherent in measures of attainment and abilities. For instance, when two successive Year 7 groups obtained similar means of about 102 on a reading test but percentages of 67 and 72 at level 6 or higher for English, what might be amiss? In fact, the difference could quite properly be ascribed to natural variation. But, regrettably, schools are likely to *seek explanations where none are required*. We show, by looking at the probable extent of variability why this is the case. As forecasting entails relatively even more variation, we indicate how targets should be pitched within defined limits. However, rather than set out a model for schools to follow, we have described established methods which could suit various school contexts.

Some of the questions we suggested above can best be answered by summarising pupil's performance assessments. Here, schools should aim for consistency year by year and, provided the curriculum does not alter greatly, could use the same assessment schemes and even tasks or questions with successive cohorts. We have illustrated how circumstances may influence pupil (school) performance, so individual data (e.g. free school meals, English as additional language, level of SEN, sex) may be analysed too. Also attainment may be appraised in terms of school conditions (e.g. pupil—teacher ratios, absence rates, official and unofficial funding levels, proportions of pupils on SEN register, exclusion rates). We think that schools who do not have computerised records should develop this facility and then produce descriptive statistics for classes and year-groups. From these they can derive others, such as 'rolling means', to examine trends. Later on they will wish to investigate aspects they might influence by changing the opportunities in the school (curricula, options,

SEN provision, homework clubs, etc.) and so revise targets. There is so much diversity between schools that while inter-school comparisons may produce useful indicators, such as value added indices, internal evaluation grounded on sound data collection and analysis is the key to understanding effectiveness and improvement.

HOW THE HANDBOOK IS ORGANISED

Part 1 is concerned with using Excel for data handling and computing indices and other statistics. Limited explanations of some statistics are given but the emphasis is on getting the results required on to the screen. In Part 2A, we explain the basis of various types of scales that may be used in schools, mentioning the good and bad points of some. This section should be especially helpful to teachers who have made little use of tests but may wish to consider them for a monitoring scheme. Part 2B gives further explanation of certain statistics and their applications in monitoring and setting targets for groups and individual pupils.