

## **CHOOSING SCHOOLS BY NUMBERS/ A NEW RADICAL STATISTICS BROADSHEET**

Provoked by the uncritical reporting of league tables of school exam and test results in local press, a few Radical Statistics members produced the broadsheet that is reproduced in reduced format on the next four pages.

The conclusion reads:

"The government is facing three ways at once in their attitude to the publication of school test and exam results. Firstly they insist that raw league tables will help parents to choose schools. Secondly they admit that value-added analysis will be necessary in the future. And thirdly, in Scotland, they accept that test results are best used as diagnostic aids to teaching within schools and need not be published at all.

"The insistence on publishing league tables helps only an undeclared agenda to reinstate selective schooling. Since this is neither government policy nor demanded by parents or others, the publication of test and exam results should be dropped. Pressure from parents, teachers and others can bring this about in England and Wales as in Scotland.

"Parents' best chance of choosing an appropriate school for their children, is through visits and discussions with the schools which are accessible to them."

The bulk of the broadsheet is given to a demolition of these league tables on the basis of two main arguments:

- (1) School effectiveness must be measured by analysing the progress of pupils since starting school: a school's results at any one time are mostly a reflection of the nature of the school's intake.
- (2) Results vary very significantly from year to year and are therefore unreliable as an indicator of future performance.

The second point invalidates value-added longitudinal analyses if used to compare individual schools, which is the government's main premise in publishing league tables.

In Scotland, pressure from parents and educationalists made the government drop compulsory publication of test results. In England and Wales, the 7-year old SATs tests (Standard Assessment Targets) are most vulnerable to criticism of their

publication, as there is no reasonable measure of school intake. The broadsheet is intended to help articulate such criticism of publication of *all* the SATs results and exam scores.

The broadsheet was drafted and finalised inside a month, mainly by Ludi Simpson, Ian Plewis, and Harvey Goldstein, with help from Bradford teachers June Butt and Alan Greenwood, and Richard Stainton from the NUT. Tim Hunkin did the cartoons. It was sent as a submission to the Department for Education on their latest consultation paper on publication of SATs results, press-released, and printed in 1,500 copies. It is published under the names of the Performance Indicators group and the Education group of Radical Statistics.

If you think you can distribute some of the broadsheets, please order them from Radical Statistics (CSN), c/o LHC, Headland House, 308 Gray's Inn Road, London WC1X 8DS. Cheques to Radical Statistics.

Price including postage: 1 copy: 50p; 2-99 copies: 30p each; 100+ copies: 20p each.

# Choosing schools by numbers?

## The statistics of school performance

How can parents best choose the schools that will care for their children's education? How much weight should be given to the school's past results in tests and exams? Do league tables help to identify good and bad schools?

Following the government white paper 'Choice and diversity' and the 1992 Education Act, the Department for Education publishes league tables of all schools' average GCSE and A/AS level exam results. And now each Education Authority will have to publish tables of school results in the Standard Assessment Tasks (SATs) taken by pupils aged 7, 11, and 14.

Bold claims have been made for these tables of test and exam results:

Secretary of State for Education John Patten: "Publishing test results will help to identify schools and teachers that are failing their pupils. ... This data is vital for schools, pupils, and parents."

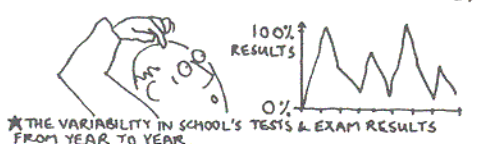
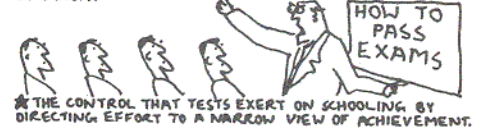
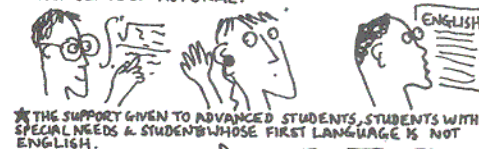
Education Minister Baroness Blatch: "Raw test results show precisely what students have achieved at school. The raw results are unadulterated by any subjective information."

The Parent's Charter on publication of national curriculum assessment results: "A single measure of each school's performance in reading (primary schools) and in each subject (secondary schools) will enable parents to use comparative tables to identify the strengths and weaknesses of each school."

The debate over how best to assess school performance illustrates how easily simple statistics can play a very political role.

In this important area of social policy, we have attempted to clarify some of the techniques involved, including "raw tables" and "value-added analysis". In doing so we hope also to shed light on the political agendas served by those who have hoisted their flag on the mast of league tables.

### SIX IMPORTANT THINGS THE LEAGUE TABLES DO NOT SHOW



Written and published by the Radical Statistics Groups on Performance Indicators and Education. Cartoons by Hunkin. Printed by Sackville Printing, London, December 1992.

## The A, B, C of league tables

### A Raw figures are misleading

Almost everyone agrees that a school's examination results are strongly influenced by the achievements of the pupils when they enter the school.

The contribution of the school, its 'value-added', can only be measured by studying the *progress* of pupils, that is the difference between their initial and final achievements.

By requiring schools to publish only their 'raw' average examination results the Government is ignoring this elementary fact. The resulting league tables reflect not the quality of education in each school, but rather the nature of their intake. This has been confirmed dramatically in a recent survey of A-level results in the Guardian newspaper, where schools and colleges were grouped into 3 categories on the basis of their average exam performance. Nearly half changed their category when 'value-added' scores were used instead of 'raw' results.

The government claims in its Parent's Charter that raw league tables 'will give parents a secure means of measuring the progress, not only of their own children, but also individual schools.' This is not true and the government is knowingly misleading the public.

The same research showed how schools change over time. From one year to another, one third of schools changed their attainment group. This means that by the time any exam results become available, they are out of date because they apply to a group of pupils who *started* their school several years previously. They cannot be used with any precision to *predict* how a new group of pupils will perform.

If the Government presses ahead with its present plans it could seriously damage education. There will be schools which are doing a splendid job with a very low achieving intake yet will still be achieving relatively poor *raw* exam results. Such schools would be wrongly labelled as 'failing' with disastrous consequences.

In addition to the forcible publication of league tables of GCSE and A-level exam results in 1992, the Government is now proposing similar league tables for the test scores obtained at 7, 11, and 14 years of age. For all the same reasons these too will be highly misleading and damaging.

In Scotland, parental pressure, protests from schools and common sense have forced the government to climb down and not to publish these simplistic league tables. Why should England and Wales still suffer?

### B The limits of value-added analysis

In the latest consultation paper on the Parent's Charter (21.10.92) the Department for Education suggests that in 1995 progress since 7 year old SAT scores will be published for each school alongside 11 year old SAT scores, and progress since 14 year old SAT scores alongside GCSE results. They say this will provide "hard calculations of the enhancements achieved - the 'value-added'".

The DfE have not been clear about how this progress will be measured but such a dual league table will not allow parents to assess the school's contribution to the progress of their pupils for three reasons:

- progress between one set of tests and the next is due partly to the school, but is also due to other home and social support available to the pupils.
- having two league tables with schools in a different position on each, makes a nonsense of the aim of clear information for parents.
- primary schools have no such measure of their intake by which to judge progress in the 7 year old SATs. No value-added information is proposed or possible.

A serious value-added analysis needs results for a large number of schools. It compares the progress between intake to a school at say 11 and outcomes in say GCSE exams. The comparison is valid only for schools with similar intake. It is achieved through a statistical method known as regression. In words, an adjustment is made to the school's GCSE scores that takes into account the average progress for schools of the same intake. High progress and low progress schools then stand out from this average.

Schools are only compared when they have the same parental and social support to their pupils as well as the same type of intake as measured by previous achievement. Clearly such a value-added analysis is only possible when a lot of schools of the same circumstances are compared.

The Parent's Charter statement that value-added measures must be "few and straightforward" is not achievable.

Value-added analysis may well be useful to help understand what contributes to pupils' progress in general terms. It should be a part of national research into what makes an effective school. But it is no use at all for comparing individual schools because its results are unreliable at this level of detail.

### C Unreliability makes lists of schools worthless

Research into examination results has shown that school league tables are unreliable, even where it is possible to measure progress. This is because there remains a great deal of uncertainty attached to the progress measure for any one school. This uncertainty is of two types:

- There are real trends over time. Predicting future pupils' progress from data for a year or two in the past is like crystal ball gazing.
- The particular results in any one year are subject to chance effects of pupil sickness, unusual test questions and so on. This adds random uncertainty to the results.

The end result is to prevent fine distinctions between individual schools in any league table, raw or value-added. Yet this is precisely the distinction that parents are asked to make.

## The 1, 2, 3 of markets, information and choice in schooling

### 1. Market misinformation

We have shown that raw test scores show the type of intake a school has, more than anything else. If the government is interested in an education market where each school's value is known, league tables of raw scores are misinformation: they show nothing about the quality of teaching in each school, nor about the breadth of the curriculum offered, nor about the suitability of the education offered for the pupils who enter.

Most importantly, they show nothing about whether the school helps students to pass their tests. If all the "top" school's pupils studied in the "bottom" school, most surely it would not be at the bottom.

*As far as a market in education goes, these tables are misinformation. Many good schools are shown as bad.*

### 2. A market, but no parental choice

We have also shown that even a sophisticated analysis would suffer from such unreliability as to make it worthless to guide parental choice.

If the government insists on publishing these tables, the only result will be that some schools will try to move up the table by selecting students who have had a better start in life, and avoiding those who have not.

Other government legislation, including the ability to opt out of LEA control, helps such a school to achieve this selectivity.

Publication of league tables of exam and test results will drive schools to choose parents, not help parents to choose schools.

For many parents there is only one available school, as in rural areas; to them the idea of choice is irrelevant. And finally, if there really was a set of 'best schools', how could every parent choose them?

*So a market cannot ensure good education for all children.*

### 3. Selective schooling is the end result

The real information in league tables is to tell parents which schools are most selective.

Despite the steady increase in GCE and GCSE passes since comprehensive school legislation, *whatever the spoken or hidden political intentions, these league tables encourage a return to selective schooling.*

Radical Statistics is a non-aligned group of statisticians and research workers concerned with the political assumptions that underlie statistical work. Membership is £10 per annum, which includes 3 issues of the group's newsletter and notice of all activities.



## The Citizens Charter

One of the Prime Minister's first and favourite initiatives was the Citizens Charter. Its declared purpose is to encourage effective public services by insisting that each service:

- publishes the standards it aims for, and measures indicators of its performance in achieving those standards
- gives each individual the right to challenge the provider of a service if standards are not met, and the right to choose an alternative provider of the service

More than twenty Citizens Charters have been devised for different services. Many of them involve the statutory obligation to publish tables of performance indicators like the school and LEA league tables of test results.

For example, the Audit Commission has drawn up a list of two hundred performance indicators about housing, social services, the fire service and every other aspect of local government provision. These include exam results as a measure of performance of the local education authority. Each local authority must measure and publish these indicators, which will be gathered into a mammoth national league table by the Audit Commission. Many organisations have voiced doubts about these regulations that mirror those expressed about the school test league tables. They have said that:

- a common set of indicators detracts from local priorities suited to the local community
- the indicators do not take account of the local circumstances that make a service easier or harder to provide
- the indicators measure the output from a service, not the quality of that service or its effectiveness in solving local problems

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# Who says what?

## Royal Statistical Society

"The RSS is sympathetic to policies which aim to provide the public with more information about the way publicly-funded services are operating. However, the statistical data used in this way must be soundly based and capable of interpretation without ambiguity. GCSE (and National Curriculum) results in the form now published do not meet these criteria. The Royal Statistical Society is extremely concerned about these moves, and believes government policy to be flawed."

## Getting Results Into Perspective

A campaign originating with Bradford primary education teachers, GRIP "wishes to encourage parents to think carefully when choosing a school for their child. The proposed publication of raw results within local school performance tables is harmful, invidious and will serve no useful purpose." GRIP, 74 Holme Wood Road, Bradford BD4 9EJ.

## National Confederation of Parent Teacher Associations

"99% of parents already receive information about their child's progress through their child's report. Do we really want to judge our children in the same way as the football leagues? Books, equipment and staffing appear to have been relegated by the Secretary of State."

## The Education Department of the Scottish Office

After consultation with teachers and LEAs, and protests against the original proposals, Scottish LEAs have been instructed that the SATs tests should be "selected, administered and marked by teachers themselves", arranged "giving schools a flexibility in the choice of content, application and timing". An "individual pupil's performance in tests shall be communicated only to the pupil and the parent, and recorded in the pupil's progress record." In other words, a test to support the individual pupil's needs, not for publication.

## National Union of Teachers

"If the government really believes we should return to a two tier system which deprived two thirds of the nation's children of adequate provision, it should say so. It should not pretend it cares about the education of every child and the rights of every parent."

"What parents want is for the school serving their community to offer the best possible education to their children. That can only be achieved by ensuring every school is properly resourced, with professionally trained teachers working in adequate buildings and small classes."

## Task Group on Assessment and Testing

From the National Curriculum reports published by the Department of Education and Science and the Welsh Office, 1988: "The Task Group recommends that there should be no requirement to publish information about the spread of results of the assessments conducted at the seven year stage. The pre-school experiences and the length of schooling of the children are so varied and have such an effect at this age that the results are particularly difficult to interpret and cannot give useful information about a school's effectiveness."

## Headmasters Conference

Representing the top boys' public schools, secretary Vivian Anthony says: "What we feel very strongly is that it gives a false impression to parents. We make exam results available to parents, but to league-table results suggests that a school higher in the table is better than one lower down, which may well not be the case." Submission of exam tables by independent schools is optional, and although considerable political pressure was applied for them to do so, less than half of all independent schools did so in 1992.

## Conclusion

The government is facing three ways at once in their attitude to the publication of school test and exam results. Firstly they insist that raw league tables will help parents to choose schools. Secondly they admit that value-added analysis will be necessary in the future. And thirdly, in Scotland, they accept that test results are best used as diagnostic aids to teaching within schools and need not be published at all.

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