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Twenty per cent with special needs: another legacy from Cyril Burt?

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The 1981 Education Act has now been operational for a year and as Margaret Peters has explained (TES 30.4.84) it's a hard act to follow. The Act requires LEAs to provide adequate help for all children with special educational needs, as well as the more highly publicised requirement to integrate, where possible, children receiving segregated special provision (currently around 2 per cent). Unfortunately the Act is about as vague as it possibly could be in defining which children have special needs. Thus a child has special needs if he or she has "a significantly greater difficulty in learning than the majority of children of his (sic) age". Nevertheless, there are some guidelines for the number of children who might be expected to fall into this group. The Warnock Report (Warnock, 1978) concluded that one child in every five at some time, and one child in every six at any one time will require some form of special help. These figures are enshrined in Circular 8/81 the circular to LEAs which preceded the implementation of the Act. The proportions given in the Warnock Report, and in particular the 20 per cent figure, are quoted regularly by LEA personnel, on whom the 1981 Act has had a considerable impact. Many LEAs are using the 20 per cent figure as a baseline of provision to aim for. In view of the wide currency of these figures it is pertinent to take a look at where they came from and what their justification might be based upon.

The Warnock Report draws together five sources of information on incidence of special needs: the Isle of Wight survey (Rutter et al. 1970), the Inner London Borough (ILB) study (Rutter et al. 1975; Berger et al. 1975), a study

of children with special needs in the infant school (Webb, 1967), discussions with ILEA teachers (Inner London Education Committee, 1974) and the National Child Development Study (NCDS) (Pringle et al. 1966; Davie et al. 1972; Fogelman, 1976).

These sources can be split into two groups as far as their use by Warnock is concerned – those which classify children according to measures of development and attainment regardless of the provision they are receiving, and those which classify children largely according to the provision they receive or it is thought should receive. Thus, Rutter's Isle of Wight and ILB studies report the percentage of children, who, based on IQ and reading tests, behavioural rating and medical report were considered to have a problem in reading, have a psychiatric disorder, physical handicap or other severe problem. The NCDS data, on the other hand concerns the percentage of children receiving special help either in or out of ordinary schools, together with the percentage of children whom teachers thought would benefit from special help. With the exception of Rutter's ILB study all the reported prevalences were between 12 per cent and 20 per cent. As the earliest of the quoted studies, the Isle of Wight study, not only has provided a key model for others it also gives an overall prevalence (16 per cent) in the middle of the range of estimates, so we took a detailed look at it.

In looking at the prevalence of special need, the Isle of Wight survey provides a secure baseline because it uses measures from tests and rating scales rather than teacher estimates of need or percentages receiving special provision. The problem with the latter type of information is that the percentage of children in provision is a figure whose upper limit is determined by the amount of provision available and to some extent this will affect teachers' estimates of need. They are, therefore, somewhat arbitrary in comparison with

Editorial note. This paper formed part of occasional paper 2 from the SSEPS project at the University of London. A summary appeared in the TES on 27.2.84. In reprinting the paper in its entirety it is hoped to reach a wider audience with the issues it raises. The research was funded by the Economic and Social Research Council (ESRC) ref. no: C1022 (X)15.

percentages derived from measures of ability and attainment. But are the latter as 'objective' as is often thought?

When test scores or other measurements are used to determine the number of children falling into a particular group or category, e.g. intellectual retardation, a decision has to be made as to the score which determines which children are allotted to the group in question. It is inherent in such cut-off points that there are no absolute rules to determine their values; some arbitrariness is inevitable. As is often the way in such cases, investigators search for precedents. Rutter et al went to Burt for their cut-off score to determine intellectual retardation, the most extreme of their four groups with special needs.*

'There is no infallible guide to draw the line. . . . However, following Burt (1921) an IQ of 70 has usually been found to be the most suitable place to draw the line'. (Rutter et al. 1970, p2)

Burt himself has some interesting things to say about the arbitrary nature of cut-off points. Talking about the division between mental defectives and normals he suggested that the most natural cleavage between the two groups was the point at which the curve of distribution of intelligence for the two groups (normal and defective) intersect. ('A notched stick snaps at its narrowest part', Burt, 1921, p.164). In London he claimed this to be about 2.8 standard deviations below the median score for normals. The actual point of 'demarcation' used by certifying officers, however, 'wavers like the unsteady needle of a compass; oscillating, for the most part, according to the personal views of each examiner, between -2.5 and -2.0 SD points. . . .' (op cit, p.166). In order to avoid this dependence upon subjective judgments, Burt postulated that:

'mental deficiency must be treated as an administrative rather than as a psychological concept.' (our emphasis)

and

'For immediate practical purposes the only satisfactory definition of mental deficiency is a percentage definition based on the amount of existing accommodation' (op cit p.167)

Footnote. Andrew Sutton's article 'The Social Role of Educational Psychology in the Definition of Educational Subnormality' (Barton & Tomlinson 1981) makes many of these points.

and, as the special schools of London could accommodate only 1.5 per cent of the child population, this is where Burt advocated that the cut-off should be set. Burt found that 1.5 per cent of the population were those who fell below a level of -2.6 SD below the population median on the Stanford Binet test. This was equivalent to a mental ratio (that is IQ) of 69.4. So a cut-off of IQ 70 was used by Rutter et al, using the authority of Burt, who chose it because at the start of the 1920s London's special schools could cater for 1.5 per cent of the school population.

In Burt's later book 'The Backward Child' (1937), he states that he is not the only one to use an IQ of 70.

'Researches . . . elsewhere indicated that this average borderline' (a mental ratio of about 70 per cent) 'corresponded with the general practice of the more experienced teachers and school medical officers, when nominating or certifying cases as in need of education at a special school; and, as it subsequently turned out, much the same standard was proposed or accepted by psychologists and doctors abroad. It was also adopted by the joint committee of the Board of Education and the Board of Control in laying down standards for their investigator in their enquiry into mental deficiency.' (op cit, 1961 edition, p81)

However, considering Burt's reputation at the time they quite possibly took the figure direct from his 1921 book.

Burt himself, however, seems to have forgotten how he reached the 70 figure, for on the next page he writes:

'Accepting, then, a mental ratio of 70, we have next to inquire how many children fall within the category thus defined. In London I found that the proportion of educable defectives was almost exactly 1.5 per cent of the total age-group.' (op cit, p.82)

Hardly surprising, since that is why he chose the figure of 70 in the first place!

What of the other measures used in the Isle of Wight survey? A second category, educational retardation, was determined by a reading comprehension or accuracy score on the Neale test of 28 months or more below chronological age. Burt (1950) was again cited as the

reason for placing most emphasis on reading attainment when looking at educational retardation.

'A disability in reading operates in a more general way than a disability in arithmetic (or other subject). From the earliest years a child is heavily handicapped . . . The poor reader will eventually become backward in arithmetic as well . . . as time goes by he will fall behind in all other studies that depend upon book work.'

Hence the justification for the emphasis on reading, which many would still accept, while the choice of a 28 month deficit as the cut-off was again:

'an arbitrary matter depending on the purposes of the investigation. For our purposes it was necessary to choose a point which would select children with a retardation in reading severe enough to have important educational implications . . . The 28 month cut-off point was chosen because all children achieving so poorly should have been identified by our screening methods' (group testing) 'and because such severe retardation (which would be expected in only about five per cent of school children) is likely to be a very considerable handicap in school.'
(Rutter et al. 1970)

Note the vagueness of phrases such as 'important educational implications' and 'likely to be a very considerable handicap', the only precision is the figure of 5 per cent.

Similarly 28 months below the reading level predicted from a child's age and IQ was the level used to identify specific reading retardation. So the 28 month deficit in reading, which was also one of the criteria in the ILB study, was based on the supposition that a child with such a score would a) be picked up by the screening, and b) have a problem in school. It sounds reasonable, but remains arbitrary.

The reification of numerically defined classifications is widespread. For example, Wolfendale and Bryans (personal communication) report that the cut-off used with the Croydon Checklist was a tentative one, about which the authors were rather diffident, and the speed with which this was adopted as a definitive measure of later school failure was extremely disconcerting to them.

One further point in connection with the Warnock recommendation is worth noting.

The one in five and one in six figures are national averages and hence will vary from one part of the country to another depending on social, environmental and other factors associated with measured performance, as Rutter found in the Inner London Borough which had twice the prevalence of the Isle of Wight. Thus for example, in some county areas the 20 per cent will be an overestimate for that population, yet it may well be used as a baseline of provision to aim for, in order to argue for expansion of special needs services or perhaps the avoidance of expenditure cuts. Burt himself acknowledged such variation between areas. In a footnote to his rule about mental deficiency being an administrative concept he cautions:

'I should add that my formulation of a borderline holds good in the first instance merely for average conditions in an industrial area, such as that which I have been studying. Where environment and stock are better or worse, different figures would unquestionably be obtained. In the near future we may perhaps have separate borderlines for rural and residential areas, as distinguished from highly industrialised towns. . .'

and to complete the quote,

'and perhaps even for the weaker sex as distinguished from men and boys . . .'
(Burt, 1921, p.167)

But, to give Cyril Burt his due, it is fascinating to note that while in 1921 he was grappling with the problem of definition and with variation in provision in different areas, he suggested that many children with special needs could be catered for in the ordinary school:

'As it stands, the statutory definition' ('incapable of receiving proper benefit from the instruction in the ordinary public elementary schools'*) 'is too vague and indirect . . . In some districts the inability to receive proper benefit from 'the instruction in the ordinary school' would include the dull and backward, for whom . . . special educational provision is urgently needed, though seldom found. In more progressive areas, 'the instruction in the ordinary school' might com-

* compare this with "a significantly greater difficulty in learning than the majority of children of his age".

prehend such special provision: and here many children, who might otherwise be transferred to a special (M.D.) school, would undoubtedly receive proper benefit from instruction in the backward classes of the ordinary school, and at the same time escape the unmerited stigma of mental deficiency. Between these two alternatives the policy of different local authorities and the practice of different certifying officers tend, as is well known, to fluctuate widely.' (Burt, 1921, author's emphasis)

Now that certainly sounds familiar!

Our aim is not to criticise the classic studies of Rutter and his colleagues nor indeed further to denigrate Cyril Burt. Rather we wish to emphasise that the setting of cut-offs has always involved some arbitrary decisions. Rutter et al make this plain, as does Burt. The problem with both seems to be that subsequent commentators and even the authors themselves then forget these strictures and treat cut-offs as having a substantive rather than a mere statistical justification. What we find disturbing is not so much the use of classifications based on convenient conventions, but the failure to recognise the essential arbitrariness, or indeed circularity, which is involved.

The consequences may be confusion, inadequate planning and inefficient use of resources. It seems clear to us that sensible planning for special educational needs should start from the recognition of the arbitrariness of such educational categorisations. Our current ESRC supported research project is exploring, in collaboration with LEAs, some basic questions:

Should LEAs adopt their own cut-off points?

Should the size of the special needs groups be determined by resources available, or should resources be increased or reorganised so that a fixed percentage of children receives extra support?

Is it feasible to aim for extra help of some kind for as much as 20 per cent of the school population?

How do support services need to be organised to service this extra-ordinary demand? What does this mean for the class or subject teacher?

What does it mean for the children who do not fall in the 20 per cent group as well as those who do?

What are the implications for remedial support services?

Our hope is that answers to these questions should help LEAs to plan services more effectively.

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