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I Do Not Believe in 'Intelligence' or 'Ability' or 'Aptitude' – and Neither Should You

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ABSTRACT Anybody who has studied education over the past forty years is aware that secondary education in England is the subject of continuous and continuing debate. Everyone has been to school and therefore everyone lays claim to some expertise – the lot of teachers is never easy. But it is a contention of this article that teachers are at least partly responsible for what is arguably the most damaging characteristic of English education: the persistent and pervasive belief in the notion of 'intelligence'.

Expectations

In forty years of teaching I have only ever taught 'mixed-ability' groups – more accurately described as 'mixed experience' groups by Henry Smith, a colleague at Holland Park. With some I had some success, with others less so. Not once did I think the success or otherwise was down to students' ability or intelligence. At Holland Park in the seventies I well remember a Year 8 humanities lesson in which dinosaurs were a topic. After a period of reading a textbook I started to question the students to check their understanding. One student, a slightly scruffy girl, ILEA band 2/3, who had hitherto hardly caught my attention, suddenly complained that my questions were too easy. In a moment of inspiration I suggested that she took over the questioning. To my surprise she agreed. I retired to the back of the room while she took over the class. The questions she then asked were far more probing than I would have dared, as was her insistence on accuracy in the answers supplied.

At Willesden High in the eighties I surprised some colleagues by successfully insisting on competitive spelling tests with a Year 8 mixed-ability English class. The class was divided into teams and individuals were asked to write a word on the board. The words were chosen by me and could range from 'right' to 'inconsequential', depending on what the individual had spelt

wrongly more than two or three times in their recent writing. Points were scored for correct spellings. All could participate and it was highly competitive. Variations included bonus points for other teams and gradual handing over of the whole process to the students. This relied on accurate recording of an individual's spelling history (which would be much easier now with computers).

When I arrived at Willesden High School, several well-meaning and well-intentioned teachers warned me of the very unrealistic expectations of many black pupils and their parents who wanted them to be doctors and lawyers. Although we made significant progress, circumstances were against us. But it is only in the last fifteen years that I have realised the greatest enemy is the seemingly inbred love of intelligence amongst the teaching profession.

History

One thing that has changed is the training of teachers. There is much greater emphasis on classroom management and assessment techniques, but less focus on broader questions such as what society we want to create, or what theory of knowledge underpins the National Curriculum. There is a dominant epistemology in English education which ranks knowledge hierarchically and makes it available to the next generation according to notions of intelligence and ability; a selective, differentiated distribution which reflects, and contributes to, continuing societal inequality.

Enormous amounts of time and effort are spent on tinkering with option systems and refining student groupings with the aim of matching curriculum and pedagogy to supposed levels of intelligence and ability. Government reports and initiatives routinely embrace the ideology – from the post-war division of the student population into grammar, technical and secondary modern cohorts to the perennial lament, much loved by politicians of all persuasions (as well as by defeatist teachers), over why we are not catering for 'the non-academic child'. The tripartite system reflected the thinking of the Hadow Reports (1923-1933), the Spens Report (1938) and the Norwood Report (1943), which, although containing some contradictions and overlooked ideas, basically entrenched notions of intelligence and ability as crucial components of the English educational scene.

Thus the Hadow Reports supported individual and group work and in 1924 spoke of the danger of over-reliance on intelligence testing but by 1926 were advocating the primary/secondary split at age eleven and by 1931 recommended a triple track streaming system for larger primary schools. This was adopted so enthusiastically by teachers that the Plowden Report noted: 'Grading by ability, in one form or another, became almost universal in all but the smallest schools' (Plowden Report, 1967, p. 283). The Spens Report built on these foundations by recommending that there should be three types of secondary school – grammar, technical high and secondary modern – with selection for children taking place at the age of eleven. The Norwood Report on the secondary curriculum endorsed the idea of three types of student with

three types of curriculum, with the forlorn hope that there should be parity of esteem between the separate institutions. It was remarkably unadventurous for a curriculum document, stating, for example:

> If anything is to be integrated it is not the curriculum that must be integrated, but the personality of the child, and this can be brought about not by adjustment of subject as such, but by the realisation of this purpose as a human being, which in turn can be brought about only by contact with minds conscious of a purpose for him. Only the teacher can make a unity of a child's education by promoting the unity of his personality in terms of purpose. (Norwood Report, 1943, p. 61)

Eugenics

Why was the notion of intelligence and fixed ability so easily adopted by the English education system? In his Goldsmiths inaugural lecture, Chitty (2001) skilfully traced the origins of mental measurement to concerns about mental degeneracy and racial purity. The first half of the twentieth century was notable for the rising influence of the eugenics movement, and many scientists, politicians and literary figures, such as W.B. Yeats, were convinced supporters. A letter to *The Lancet* in 1910 saw the appointment of the first school doctors as an opportunity to make progress:

> The medical inspection of our school children is but one part of a larger eugenic survey of the nation ... Eugenicists are in the main convinced that by safeguarding in every way the good stock of the nation ... we shall effect the object which increased fitness, physically, mentally and morally, among the general population. (*The Lancet*, 3 September 1910)

The most convenient way of identifying those not fit to breed lay in the emerging 'science' of intelligence testing, championed by Cyril Burt:

> By the term intelligence, the psychologist understands inborn, all-round intellectual ability. It is inherited, or at least innate, not due to teaching or training; it is uninfluenced by industry or zeal; it is general, not specific, i.e. it is not limited to any particular kind of work, but enters into all we do or say or think. Of all our mental qualities, it is the most far-reaching; fortunately, it can be measured with accuracy and ease. (Burt, 1933, pp. 28-29)

This clearly describes a superior being beloved by Nietzsche which underpinned Nazi racial policies as well as providing the justification for the tripartite post-1944 English secondary school system. It all had an aura of respectability; Julian Huxley was a eugenicist. It is instructive to contrast English developments with those in the USA. Despite the growing power of the IQ (intelligence quotient) industry, the 1945 Report of the Harvard Committee,

General Education in a Free Society, was much more concerned with democratic values:

> The ideal is a system which shall be as fair to the fast as to the slow, to the hand-minded as to the book-minded, but which, while meeting the separate needs of each, shall yet foster that fellow feeling between human being and human being which is the deepest root of democracy. (Harvard Report, 1945, p. 9)

The report emphasised that adapting general education so that it can appeal to everyone is the key to anything like complete democracy. The American high school was for all children (Harvard Report, 1945).

It was not long before the 11 plus in England came under attack. Brian Simon pointed out that the intelligence test says nothing about how an individual behaves in action and attempts to exclude any emotional response.

> In short it would be difficult to find a more effective method of differentiating children according to social environment than the standard verbal intelligence test. (Simon, 1953, p. 69)

He refuted the notion that intelligence, itself an indefinable quality, is normally distributed and made an important distinction for teachers between ability and attainment.

> The teacher who sets out to educate the children under his care meets them as human beings ... . His attitude is essentially humanist. He recognizes that learning is a process of human change, not merely the formal acquisition of knowledge. Above all he starts out with the conviction that all the children under his care are educable ... . This is not to say that he shuts his eyes to obvious differences in attainment, but it does mean that he refuses to be blinded by the assumption that degrees of attainment reflect degrees of 'intelligence'. (Simon, 1953, p. 103)

By 1974, Leon Kamin summed up the American experience of the IQ industry as follows:

> The IQ test in America and the way in which we think about it has been fostered by men committed to a particular social view. That view includes the belief that those on the bottom are genetically inferior victims of their own immutable defects. The consequence has been that the IQ test has served as an instrument of oppression against the poor, dressed in the trappings of science, rather than politics. (Kamin, 1974, p. 1)

IQ tests captured the imagination of US policy makers and were seized on by school administrators. In the years 1921-1936, over 4000 articles on testing appeared in print. By 1939 no less than 4279 mental tests were in circulation. According to Bowles and Gintis, a survey of 150 city schools systems in 1932

revealed that three-quarters were using 'intelligence' tests to assign students to curriculum tracks (Bowles & Gintis, 1976, p. 196).

Bowles and Gintis also referred to the popularity of early IQ testing for military classification and immigration restriction. The Carnegie Corporation spent vast sums of money on research in the educational uses of the tests. In its 1931 report on its Pennsylvanian study it stated:

> The conspicuous lesson of the Pennsylvanian study thus far is the dependence of all successful education on adequate provision for proved differences in individual interests and capacities. It is probable , however, that on both the secondary and higher levels much more than this can be done, and that certain groups having similar abilities can be segregated and given a more appropriate curriculum. (Bowles & Gintis, 1976, p. 197)

The Coming of Comprehensive Schools

The change to comprehensive schools in England was arguably a matter of political and/or economic expediency. It certainly did not herald a new curricular programme, beyond the supermarket approach to subjects. It solved the problem of complaints about the eleven plus and facilitated economies of scale. The 1966 ILEA Report on London Comprehensive Schools said that the term 'comprehensive school' was

> hardly justified unless there are in fact within it sufficient numbers of people in all parts of the ability range to call for and to justify proper provision for them. (ILEA, 1966, p. 17)

It affirmed that variety and choice are the keynotes of the educational provision in a comprehensive school, as in order to cater for all the abilities schools must offer a range of courses. Therefore comprehensive schools had to be large. It also claimed that the comprehensive school is in a specially favourable position 'for meeting the needs of these least able pupils, in so far as it is, generally speaking, large enough for a special department to deal with them' (ILEA, 1966, p. 64).

Indeed, a predecessor of mine at Willesden School, Max Morris, used to advertise that the school had the largest remedial department in the country. The 1968 study by the National Foundation for Educational Research (NFER) found that among 331 schools, a grand total of 335 subjects were listed as being studied at different age and ability levels. The follow-up NFER study in 1972 found, unsurprisingly, that cultural theatre visits and concerts were closely linked with social class and commented:

> to expect pupils from a homogenous working class urban area with only a handful of middle class families to achieve as much as other pupils coming from a more favourable locality is unrealistic. (NFER, 1972, p. 39)

The desirability of having more middle-class students was supported by the 1968 NFER study, which found: 'It is mainly the abler, middle class pupils who support the extra-curricular programme and schools with few of these got little support' (Monks, 1968, p. 123).

Margaret Miles (1968) accepted IQ definitions and the idea that comprehensive schools must have a wide spread of IQ, even if this meant bringing in children by bus from outside the local area. She claimed that the effects of having a variety of courses available 'have been that pupils have opted naturally for the courses to which they are suited' (Miles, 1968, p. 10).

Robin Pedley was adamant that the comprehensive schools must offer a wide range of courses: 'because special interests and aptitudes develop as people grow up, a comprehensive school must offer a wide range of possible courses to meet different needs of different pupils' (Pedley, 1963, p. 20).

IQ Tests

So the advent of comprehensive schools in the sixties did not diminish the use of terms such as 'intelligence', 'ability' and 'aptitude' – which in turn rely on the notion of a scientifically tested IQ. Allegiance to and belief in the validity of such terms results in the separation of students in secondary schools from their peers by devices such as banding, streaming, setting and option systems, which help to maintain the differential distribution of knowledge and power in society. A convenient summary of the prevailing orthodoxy is:

1. IQ tests measure intelligence;
2. Intelligence is an important determinant of success in school life;
3. Intelligence is highly heritable (possibly 80%);
4. Mean black/white and social class differences in intelligence are large (15 points for the former);
5. It therefore allows that:
   (a) Intelligence is resistant to change;
   (b) Inequities in intelligence are not eliminable;
   (c) Race and class differences in intelligence are probably genetic in origin;
   (d) Attempts to achieve greater equality in areas where intelligence is important (education, social position) are unrealistic (Matthews, 1980, p. 134).

The above position can be traced back to Charles Darwin (Darwin, 1859) and Frances Galton (Galton, 1869) and the rise of the eugenics movement. However, the pioneer of IQ testing was not in this tradition. Alfred Binet's purpose was to identify individuals requiring remediation; he rejected the idea that 'the intelligence of an individual is a fixed quantity which one cannot augment ... We must protest and react against this brutal pessimism' (Binet, 1913, pp. 140-141).

But his successors took IQ testing as a measure of fixed intelligence which could predict future performance, and in so doing, firmly placed IQ testing in

the realm of social rather than biological science. The most extreme potential use of the IQ test has been posited by Julian Huxley, a former director-general of UNESCO. Although he concluded that there were large genetically endowed IQ differences within racial groups but minimal differences between racial groups, and therefore firmly rejected Nazi anti-Semitism and South African apartheid, his strictures for the urban poor must nevertheless be classified as oppressive:

> By the social problem group I mean the people, all too familiar to social workers in large cities, who seem to have ceased to care, and just carry on the business of our existence in the midst of extreme poverty and squalor. All too frequently they have been supported out of public funds, and become a burden on the community. Unfortunately they are not deterred by the conditions of existence from carrying on with the business of reproduction: and their mean family size is very high, much higher than the average for the whole country. Intelligence and other tests have revealed that they have a very low average IQ; and the indications are that they are genetically subnormal in many other qualities, such as initiative, pertinacity, general exploratory urge and interest, energy, emotional intensity, and will power. ... Compulsory or semi-compulsory vaccination, inoculation, and isolation are used in respect of many public health risks: I see no reason why similar measures should not be used in respect of this grave problem, grave both for society and for the unfortunate people whose increase has been actually encouraged by our social system. (Huxley, 1966, pp. 273-274)

Returning to the first proposition – that IQ tests measure intelligence – what is the definition of intelligence? That which is measured by IQ tests is the only logical answer: it has no meaning outside of this context. For intelligence tests say nothing about an individual's sensitivity or emotional response to events or other persons and nothing about potential performance. The second proposition – that intelligence is an important determinant of success in school life – rests not only on the assumption that 'intelligence' means something but also on the assumption that it is normally distributed and therefore susceptible to statistical analysis. But Simon concludes that 'the assumption that intelligence, in itself an indefinable quality, is normally distributed is, then, nothing but a shot in the dark' (Simon, 1971, p. 169).

If the term 'intelligence' is accepted, as well as its normal distribution, it is possible to show a correlation between IQ and 'success', but this correlation may mask other more important correlations. Bowles and Gintis found that the contribution of IQ score to economic success was negligible compared with parental income and success. The same broad conclusion was reached in England by the Oxford Social Mobility Project; making the assumptions that measured intelligence indicates meritocracy and that it is an attribute of individuals independent of their class origins, it still turned out that meritocracy

had been modified by class bias throughout the expansion of secondary-school opportunity. Under the tripartite system set up after 1945, teacher expectations – and consequent pupil performance – were framed by the values of the institutions they worked in. The Oxford Social Mobility Project's analysis showed that IQ itself was surprisingly unimportant.

The third major proposition – that intelligence is highly heritable – cannot be proved. Kamin's review of the evidence concluded that 'there exists no data which should lead a prudent man to accept the hypothesis that IQ test scores are in any degree heritable' (Kamin, 1974, p. 1).

He suggests that the reason this conclusion is so much at odds with prevailing wisdom lies in the socio-political views of IQ advocates, as mentioned above. The fourth proposition – that mean black/white and social class differences in intelligence are large – assumes that IQ testing can be free from cultural bias. Yet Simon asserts: 'It would be difficult to find a more effective method of differentiating children according to social environment than the standard verbal intelligence test' (Simon, 1971, p. 64).

Rutter found that 'over the course of the school years, on average a child's IQ goes up or down by some fifteen points, so the IQ is far from fixed' (Rutter, 1975, p. 269).

If the first four propositions are wrong or at least unproven, then the fifth must also lapse. There remains a problem, however, in that the term 'intelligence' is still in common usage. Even when IQ tests have officially been discarded, the notion of ability – whether inherited or acquired – persists in the minds of teachers, parents and the general public (and therefore children). Hence 'mixed-ability' classes perpetuate the logic of this type of labelling, as do the many tomes of research trying to prove the relative superiority/inferiority of 'mixed-ability' classes compared with streamed classes.

Levels of attainment in particular activities or skills at a particular point in time must not be assumed to offer judgement on future levels of attainment. Nor is there any value in assigning particular levels of attainment as indicative of something as indefinable as 'intelligence'. There are similar difficulties with terms such as 'ability' and 'aptitude', which are sometimes used as less emotive substitutes for 'intelligence'.

Perhaps the simplest and most telling argument for rejecting the notion of intelligence and allied terminology when developing a curriculum model for the comprehensive school is that the belief in IQ and intelligence gives the teacher the perfect excuse for failure to educate: 'the belief in the inheritance of tendencies and traits saves us from blame in the training of our young' (Ross et al, 1972).

Student Charter

I have tried to show that notions of intelligence, ability and aptitude have extremely dangerous connotations for education. Much of the debate also assumes that most students will spend most of their time being taught in groups

of about 25, and when this outmoded pattern is allied with teachers who are not convinced of the educability of all, then continued failure for many is likely. I put forward the following charter as a basis for reform.

1. *Access to a school can be denied only if there is oversubscription and the student is unlucky in a genuine lottery (no attention paid to intelligence, IQ, ability, aptitude, attendance, behaviour, etc.).*
2. *Within the secondary school, access to a course can be denied only if there is oversubscription and the student is unlucky in a genuine lottery (no attention paid to intelligence, IQ, ability, aptitude, attendance, behaviour, etc.). Naturally, this is not problematic where a school has a broad common curriculum.*
3. *Students should spend a maximum of 33% of their time in teaching groups of more than 20.*
4. *Students should spend a minimum of 33% of their time in guided independent study.*
5. *Students should spend a minimum of 30% of their time in teaching groups of 16 or less.*
6. *All students are entitled to a minimum of 30 minutes per month timetabled individual discussion about their learning progress with their tutor, which parents may also attend.*
7. *Students (and their parents) are entitled to know their current levels of attainment but these should not be assumed to be predictions of future performance.*

Do not, however, underestimate the power of the IQ industry (and its allies in the examination industry). From time to time they emerge to roar against their eventual demise. In the *Wall Street Journal* (*Wall Street Journal*, 1994), fifty leading academics refuted criticisms of culture bias in testing but then confidently asserted that the average white IQ score was around 100 but for American blacks it was 85. And do not be easily seduced by new clothes on old wolves ... Who will turn out to be blessed with more of Professor Gardner's Multiple Intelligences than others?

At the start of this piece I referred to continuous debate, but in truth little has changed in the last eighty years in English secondary schools. Most students are taught in various classrooms by one teacher for nearly all the week. There is limited scope for addressing individual needs and learning styles. Instead there are the well-worn excuses of 'intelligence', 'ability', etc. to explain the failure to educate. Headteachers, with their staff, need to be far more adventurous in their management of time and other resources. As Derek Rushworth, a truly inspirational headteacher, sang at his farewell ceremony at Holland Park School (adapting John Lennon's words):

> All we are saying ... is give kids a chance.

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