

Ref: Freeman, J. (2006), 'Giftedness in the Long Term', *Journal for the Education of the Gifted*, 29, 384-403.

GIFTEDNESS IN THE LONG TERM

Prof Joan Freeman
Middlesex University
Department of Arts and Education
London, UK

Abstract

This ongoing investigation was concerned with why some children were labelled gifted while others - of identical measured ability - were not. Each labelled "gifted" child was matched for age, sex and SES with two others in same school class. The first matched child had an identical Ravens Matrices raw score, and the second was chosen at random for ability (n=210). The study, begun in 1974 across the UK, used a battery of tests, including IQ, personality, behaviour and in-depth interviewing for children, parents and teachers. The group of labelled gifted were found to have significantly more emotional problems than the non-labelled group, which they mostly grew out of. Now in their forties, a gifted childhood has not always delivered outstanding adult success. Better predictive factors were hard work, emotional support and a positive, open personal outlook. By 2005, the labelled and unlabelled gifted groups are not very different in life outcomes, though both are much more successful than the random ability group.

Joan Freeman is Professor at Middlesex University, London, UK; Founding President of the European Council for High Ability (ECHA); and was Editor-in-Chief of *High Ability Studies*. Her many publications and international presentations on the development of gifts and talents are based on her considerable research. The Freeman Follow-up Study is generously supported by the Esmée Fairbairn Foundation, UK.

A REVIEW OF LONGITUDINAL STUDIES

The major benefit of longitudinal studies of gifted and talented children is tracking behaviour as it develops so that early indicators may be recognised and successful developmental procedures promoted for the benefit of others. The major debit is that such studies inevitably started a long time ago when things were different, bringing into question the relevance of findings to current circumstances. In research terms, older methodology is always old-fashioned, in the sense of - I wouldn't start from there if I were you.

Giftedness is a social construct, and this can be seen in the selection of samples of children seen as gifted. Virtually all follow-up studies of gifted children select those chosen by extremely high scores on IQ or other attainment tests, that is children who are demonstrating recognisable giftedness acceptable within a society at that time (see Freeman, 2005). This limits the generalisability of predictions from such samples. Subotnik, Kassin, Summers & Wasser (1993) have shown that giftedness may take many different forms; it may appear in quite unexpected situations and at different points during a lifetime. It is not always possible to identify future gifts, which means that theories and educational programmes designed for children who are precocious in conventional areas may well miss those whose gifts do not fit either now or in the future.

Attempting to avoid the trap of selection by achievement, the Fullerton Longitudinal study in California began with 130 one-year-olds of unknown potential and their families; the only criterion being that they were healthy (Gottfried, Gottfried, Bathurst & Guerin, 1994). Measures of intellectual, physical and social development were taken regularly from 1979 to 1997. Those with an IQ of 130 or more on the Wechsler Intelligence Test were deemed gifted and compared with the others. Early indications of giftedness were discovered and parents proved to be good judges. The researchers concluded that giftedness is a developmental phenomenon, which can rise – and fall – over time so that ‘late bloomers’ can be missed in a single testing.

Population statistics do not provide entirely satisfactory controls for longitudinal studies in gifted development because they are not focussed on the subject matter (Freeman, 1998). Yet longitudinal studies of gifted children rarely make any comparisons with control groups matched for age, sex, educational experience and socio-economic-level. This was true, for example, in the Terman studies in California, which in 1925 selected 856 boy and 672 girl “geniuses” of IQ 130+, eventually producing more than 4000 variables (Terman, 1925-1929). Even for those days there were considerable flaws in the sampling. Holahan & Sears (1995), in Chapter 2, ‘The nature of the study’, describe how “no private, parochial (religious) or Chinese schools” (P.11) were included. The subjects, aged between 2 and 22, were almost entirely the progeny of white university staff along with “occasional recruiting from his colleague’s families” (p. 13), collected over a period of 7 years, and that as early as 1928 a quarter of the original sample had been replaced. This replacement continued for many years, so that the sample was neither in fact longitudinal nor valid. But it was, of course, interesting and seminal.

Terman’s “geniuses” were considerably above-average in every way, including height and leadership qualities, probably because they enjoyed well above the population norms of nourishment, exercise and education. Holahan & Sears found that the ‘Termites’ in their

seventies and eighties were no more successful in adulthood than if they had been randomly selected from the same socio-economic backgrounds – regardless of their IQ scores. This was somewhat mirrored in the findings of Subotnik, Kassan, Summers & Wasser (1993) who investigated a sample of 210 New York children selected for the Hunter College Elementary School by nomination and high-IQ scores (mean IQ 157). None had reached eminence by the ages of 40 to 50, nor were they any more successful than their socio-economic and IQ peers in spite of their tailor-made gifted education.

The Seattle Longitudinal Study has been concerned with intelligence (though not focussed on giftedness) and aging since 1956 (Schaie, 2005). It has examined expanding families over three generations (the constantly replenished sample reached 6000) and found that social effects influence the stability of IQ with increasing age. Intellectual and perceptual abilities remain high for individuals who stay active and open-minded; notably, people satisfied with their accomplishments in mid-life are at a considerable advantage as they age. The Munich Longitudinal Study of Giftedness began in 1985 with a sample of 26,000 children, identified on a wide variety of intellectual, personality and achievement tests (Perleth & Heller, 1994). The team devised 30 identification scales, which disclosed a significant number of gifted under-achievers who were typically found to be more anxious, easily distracted and with lower self-esteem than the high achievers.

In a review of 14 American and German follow-up studies of varied design, Arnold and Subotnik (1994) pointed to several important factors in conditions for the development of talent. Timing, they suggested, is the “inextricable link” in the identification of potential because of age-related stages of development. Thus, the older the sample the more reliable the prediction. But for the greatest reliability, information should be collected at different points in an individual’s life, at best within specific subject areas in which the child shows promise and interest.

Further evidence that high level school achievement may not follow-on in adult life comes from a 15-year follow-up of 82 ‘valedictorians’ (the highest grade earners in high school) from 32 schools across Illinois (Arnold, 1995). It showed that even such exceptional grades did not make good long-term predictors of later high achievement. Each individual was given five or six interviews after leaving school. They had enjoyed all aspects of school and had used it efficiently to prepare for their future lives. Their major academic advantage was in their determination to better themselves. Neither boys nor girls felt themselves to be outstandingly clever nor had they been labelled as such. None of this sample made outstanding progress in their careers (particularly the women), and by 26 years-old many were disillusioned. A longer follow-up might have shown different results.

Nor are the long-term benefits of early special provision for the gifted certain. In spite of an initially higher measured achievement and student feelings of satisfaction, the advantage of gifted education tends to disappear over a few years (White, 1992). Without the long-term perspective, programmes for the gifted may not be justified (Freeman, 2002). For example, a recent UK review of international research on Accelerated Learning found evidence of its effectiveness to be scientifically poor (Comford Boyes, Reid, Brain & Wilson, 2004). Additionally, the programme was found to be “voraciously marketed” and a placebo effect was detected. Yet for many schools around the world it is the program of choice for the gifted and talented. The question to be asked of all such programmes is how much of the initial boost to achievement is due to the Hawthorne effect, that is to sheer attention and change, and whether the effects last over years.

Measures of giftedness in the long term

The measurement of intelligence is among the best and most resilient success stories in all scientific psychology, according to the American Psychological Association's task force (Neisser, Boodoo, Bouchard, Boykin, Brody, Ceci, 1996). After a century of solid, replicated research, intelligence levels, the report concluded, reliably predict life outcomes in education and the workplace as well as aspects of health, such as how long people live. For example, a step up of just one standard deviation in IQ in 11 year-old girls improves their chances of reaching the age of 76 by 25% (Whalley & Deary, 2001).

On Wednesday, June 1, 1932, practically every Scottish child born in 1921 (N = 89,498) took the same intelligence test (the Moray House) with the same time limit after hearing the same instructions (Deary, Whiteman, Starr, Whalley & Fox, 2004). The still ongoing study of their lives is concerned with the stability of intelligence differences across the life span, the determinants of cognitive change from childhood to old age and the impact of childhood intelligence on health and quality of life in old age. Data were compared with public records for the whole UK. In this case, as a whole population was sampled it does make more sense to use the national statistics for comparison. IQ has been found strongly stable across the lifespan. Current tests and interviews show those of higher intelligence to be both physically and mentally in better health.

The continuing multidisciplinary National Child Development Study recruited 17,414 children born in Britain during one week in March 1958 (Centre for Longitudinal Studies <http://www.cls.ioe.ac.uk/index.html>). When Hitchfield (1978) studied a sample of the brightest children, selected by multiple criteria, she found that in spite of the whole population sampling, those measured as gifted were largely drawn from the middle-class. They were also "more stable and less unsettled and maladjusted than the birthweek children as a whole" (p.24) - though their parents worried more about them. One of the later studies, using male data only (a common practice of the time) looked at how the boys' intelligence, measured at the age of 11, was related to their lives at the age of 42 (Nettle, 2003). In Britain, which was becoming much more socially mobile in the late sixties, a boy's high intelligence was found to provide the means to reach a social status higher than his father's; which would not have been true a generation before.

In Warsaw in 1974, a population cohort of 13,000 11 year-olds were tested for intelligence and school achievement (Firkowska-Mankiewicz, 2002). The subject's achievement levels were about as closely related to their IQs as to their parents' educations, indeed a similar result to these relationships found in "more traditional industrial societies". In this case, though, the research was carried out during a time of "egalitarian social policy", that is before the fall of Communism. Of the high-IQ group, 90% had received secondary education and by their 30s many were in the professions. But of the low-IQ group, only two youngsters had managed education beyond primary level (not quite the proportion in "traditional societies"), both being the children of professionals; and one of them obtained a PhD!

Extracognitive influences

Yet intelligence, however defined and measured, is only part of the complex dynamics of exceptionally high-level performance, which must include extracognitive dynamics such as self-esteem, support and motivation – as well as opportunity (Dweck, 1999; Shavinina & Ferrari, 2004; Freeman, 2004). Barab & Plucker (2002), picking up Vigotsky's (1978) (unreferenced) ideas of the social context of learning, take it further by arguing that perception and cognition are not properties of the individual, but of an environmental

transaction, such that talent is an opportunity available to all via “smart contexts” - although it may be actualized more frequently by some. Biometric studies, involving families, twins and adoptees, provide reliable evidence of the environmental and genetic origins of developmental differences, both general and specific (Plomin, DeFries, McClearn & McGuff, 2001). Measurable hormonal differences for the gifted have also been claimed (Ostatníková, 2004).

In the Scottish study (above), childhood intelligence was not always related to how people perceived their success in life (Deary, Whiteman, Starr, Whalley & Fox, 2004). The most reliable predictor in their early years was found to be positive self-esteem, and the most useful tools for actually climbing the career ladder were optimism and pugnacity, similar to what Moon (2002) calls Personal Talent which she describes as teachable. Indeed, Trost (2000), investigating prediction of giftedness in adult life calculated that less than half of “what makes excellence” can be accounted for by measurements and observations in childhood: for intelligence not more than 30%. The key to success, he wrote, lies in the individual’s dedication. Others have suggested optimism as the key (Seligman, 1991; Peterson, 2000; Ryan & Deci, 2000).

Work for more than ten years at the John Hopkins University Center for Talented Youth (CTY) has found that even by the age of 12 the students, who were all volunteers, were significantly different from the general population on the personality test, the Myers Briggs Indicator (Mills, 1993). The most consistent finding was that the majority of the gifted scored highly on intuition, as indeed is claimed for Nobel Prize winners (Shavinina & Ferrari 2004). Mills interpreted this as a preference for abstract and theoretical thinking, whereas most non-gifted students prefer to be factual and pragmatic.

Some follow-up studies are very small. In Australia, for 20 years Gross (2004) has followed up 10 boys and five girls originally aged 11 to 13, chosen because their Stanford-Binet IQs were more than 160. In general, she found the youngsters to have low self-esteem, “moderate to severe levels of depression”, not to mention “loneliness, social isolation and bitter unhappiness” (p.199) which Gross lays at the door of a severe failure to match the level and pace of their learning. As there were no controlled comparisons with any other children it is difficult to tell whether the subjects were representative of other Australian high-IQ children. Of the six American boy “prodigies” followed-up for 10-years, none continued their advantage into adult achievement, a feature of hot-housed children (Feldman with Goldsmith, 1986). Child case-studies provide richness but can miss the wider environmental influences, whether of society or within the family the different interactions of parents with siblings. Each member of a family reacts personally to expectations and encouragement: the outcome being influenced by their genetic, developmental and social perspectives (Freeman, 2000a; Ronald, Spinath & Plomin, 2002; Rutter, 2005).

A 15-year Chinese study of 115 extremely high-IQ children showed the strong influence of family provision, both in achievement and emotional development (Zha, 1995). The children were first identified by parents then validated as gifted by a psychologist. Every year the parents were interviewed several times. By the age of three many children could recognise 2000 Chinese characters, and at four many could not only read well, but also wrote compositions and poems. However, these ‘hothoused’ children were found to lack easy social relationships so the parents were given lessons in how to help their children get on with others.

There are many concerns about the emotional effects and expectations of the label ‘gifted’. When emotional disturbance is associated in a stereotyped way with gifts and talents, and so anticipated by parents, it is more frequently found. Culturally, whereas some children are permitted to be recognised as gifted and talented, that is those who fit the current description, others (e.g. minorities, the disabled and the socially awkward) may not be (Freeman, 2003; Freeman, 2005). Parents who use the term gifted have been found to be more achievement-oriented and diminish their children’s emotional expression, typically producing less well adjusted children than the parents who did not use this term (Cornell & Grossberg, 1989; Freeman, 2001).

THE FREEMAN FOLLOW-UP STUDY

A controlled comparison study begun in 1974 of labelled gifted, unlabelled gifted and random ability children in Britain. The initial concern was to find why some children were labelled as gifted while others – of identical measured ability and achievement – were not so described. The investigation has used psychological testing and in-depth interviews with the subjects, their parents and their teachers in their school and home environments. Its unusual design was made to bridge statistical and in-depth approaches.

The Target group was 70 children aged between five and 14, described as gifted by their parents, almost entirely without testing, all of whom had joined the National Association for Gifted Children (the UK association is made up mostly of parents). Each Target child was matched with two Control children of the same sex, age and socio-economic level, sharing educational experience in the same school class. This careful matching enabled ability to be assessed on the Raven’s Matrices intelligence test raw scores, not the less-accurate percentiles. This group pattern test is non-verbal so that scores are very much less affected by home and school educational effects, and so is internationally widely used as a “culture free” test.

The First Control group was measured as of identical ability as the Target identified gifted children, though not labelled as such. The Second Control was taken at random from the class, culling a wide range of abilities from gifted to below average depending on the school class make-up. Some of the schools in the sample selected by ability so that in the triad matching, the random Second Control group child would more likely to be gifted, others were for all-comers so that the Second Control group child might be below average. As there was no discernable difference in the achievements or measured abilities between the Target and First Control children, the essential difference between them was whether or not they had been labelled as gifted by their parents who had joined NAGC.

The battery of tests given to all the sample children included a second individually given intelligence test, the Stanford-Binet, which scores much learned material, such as vocabulary, knowledge and arithmetic problems, (not to mention received morality, see Freeman, 2005), Cattell’s personality tests, the Stott Behaviour Adjustment Guides (for school behaviour) music and art (specially constructed). From the 63 schools, ratings were made of the class teachers’ reports on the children’s school achievements (no uniform measure was available) and the head teachers’ descriptions of school ethos and population. Children and parents were interviewed, the audio-taped transcriptions were rated, and together with other data produced 229 variables, which were statistically analysed with orthogonal comparisons and non-parametric analyses. The interview transcriptions were also carefully scrutinised for further information which may not have been anticipated in the original ratings.

The uniqueness of this investigation was in the methodology of using carefully matched controls, in addition to the long deep interviews over more than three decades. Of the whole sample, 170 children were at the 99th percentile of the Raven's Matrices. Stanford-Binet IQs ranged from the 46 children with less than IQ120 to 18 children with above IQ160; 13 reached the Stanford-Binet test ceiling of 170 IQ. Calculations to increase this quotient do not appear to be either reliable or meaningful. Family finances ranged from very poor to very rich.

Unexpectedly, the audio recordings demonstrated the unreliability of memory, such as when the same incident was described by children and parents separately, even shortly afterwards, or when as adults the subjects remembered their youth, such as the student I interviewed at Oxford University in the 1980s. She had been grade-skipped by three years, and was young, lonely and often in tears, but 20 years later remembered that time as blissful. I did not disillusion her. The police are familiar with memory distortion, but researchers and biographical writers seem strangely unaware of it.

There has been attrition over the years so that the 2005 sample, (which is still under search), will probably not be more than 100 subjects. Fortunately, the original groupings are emerging in the same proportions so that outcomes are systematic and recognisable though not yet analysed statistically.

SOME FINDINGS FROM THE FREEMAN FOLLOW-UP STUDY

The label

As children, the labelled gifted were usually treated differently by their parents and teachers, whether positively or negatively, and naturally they were aware of adult expectations. Parents might tell me, for example, that their child was too clever to play with others of the same age – in front of the child – and the child may indeed have found it difficult to have friends, but whether this was a personality feature of the child or a consequence of life experiences it would be difficult to say. The forces from school and parents spurring the gifted on to greater advancement could be strong, as discovered in the rated questionnaire responses; several subjects rose to the challenge, obtaining doctorates in their early twenties.

Others, though, felt they could never live up to the expectations of giftedness and became big fishes in small ponds, as Zeidner & Schreyer (1999) have described. Typically this would be like the student of extremely high IQ who chose a small college where her cultivated gifted image could shine unchallenged. Some largely ignored their gifts, following their low SES parents into fairly mechanical work. Others, in spite of opportunity, never managed to fit comfortably into the cut and thrust of challenging work, eventually settling for modest but secure jobs supervised by others. As so many other researchers have found, precocity, extremely high IQ scores and school grades, as well as grade-skipping were not a route to grown-up high achievements for this sample - except perhaps for those who continued in a similar path, becoming teachers and academics.

Emotional development

As children, the labelled gifted had a far higher incidence of emotional problems ($p < 1\%$) when compared with the unlabelled equally gifted. Although in each triad, the labelled and unlabelled were in the same school class and thus experienced identical teaching, parents of the labelled children made significantly ($p < 1\%$) more complaints about school provision. The long parental interviews in their own homes disclosed that the labelled gifted children

with emotional difficulties had significantly ($p < 1\%$) more problematic domestic circumstances, such as parental divorce or experiences which would disturb most children.

One cannot imply that the distinctly higher level of emotional and behavioural problems measured in these labelled gifted children were caused by their parent's pressure on them. One can only report that this in-depth investigation discovered significantly more disturbing features in the home lives of the more problematic gifted children when compared with those of the non-disturbed equally gifted children. Using both the Stamford-Binet IQ and the Raven's scores along with the rated data from the interviewing it was possible to see that it was not intelligence as such that caused these disturbances, but other matters in the children's lives, (e.g. divorce, moving home frequently), and parental attitudes to their children's upbringing (e.g. TV, homework, punishment, parental behaviour and beliefs). When asked why they had joined the NAGC (UK) for their children, most parents cited the children's problems as typical of giftedness. The gifts often got the blame. Fortunately, as the children grew up and became more independent, most of these problems disappeared, though not all. My impression of the labelled group in their forties is of more depression than in the other groups.

Grade-skipping

Only 17 of the whole sample had been grade-skipped, as this is not a common practice in the UK. 16 of them are now determined that they would not allow this for their own children: just one, who was tall and mature for his age, said it had been good for him, notably that he could leave school earlier. As one of the fathers said of his adolescent son accelerated by two years in an all-male school, "I felt very sorry for him; he was still a boy and they were men".

Influences on success in life

The most successful adults had been more robust and sociable as children, as seen in the group comparisons of the 1970s and 1980s. Werner and Smith (1992) coined the term 'resilient children' to describe successful survivors in very poor conditions, but strangely the same personality factors seemed to benefit these relatively privileged youngsters, notably those who were 'engaging', with supportive adults, responsive schools, sometimes sincerely felt religion and well above-average intelligence. In terms of conventional success in life such as high examination marks, rising up the corporate ladder or making money, the primary building blocks were always keenness and hard work, allied with sufficient ability, formal educational opportunity and an emotionally supportive home. The literature review above shows that these factors are found over and over again.

High level creativity, as seen in adult careers, has demanded a particular type of personality which is relatively independent of other's opinions, and at times great courage. The successful gifted architect who was a regular school truant, for example, did not do well in his exams and did not show his talents until long after he left university with a modest degree.

Whether conventional and rule-abiding or constantly straining at the leash, the children have usually carried their personal style through to adulthood. Maybe there were no tortured geniuses in this sample, because poor home circumstances, such as a constant change of "uncles" did nothing but harm to the possibility of adult success. In general, it was true that poverty disables while wealth enables. The very rich highly gifted girl, for example, took her first degree at Harvard University as her rightful and natural progression before entering Cambridge University for her higher degree. She then left for South America, and returned

with a husband with little formal education. She now has a prestigious position at the Foreign Office while being the main financial support for her two children and her husband.

Yet many of the sample had accepted their parents' views that some of the good things in life, such as a professional career, were not for them, even though they had the ability to do almost anything they could imagine, and more besides. Many opted for modestly-paid clerking-type work and called it coming to terms with reality. The 13 individuals who hit the top of the Stamford-Binet scale at IQ 170 have shown great variety of adult occupation, one became a professional gambler, another is a janitor to a sports club, one has a small business, another is a full-time mother, one died of cancer, one never uses his early PhD and works in IT, and so on. Some outcomes were largely predictable and some were not, such as the handicapped boy who became a millionaire banker at 34 from an educationally and financially poor background

Pressure

A clear warning against too much academic pressure on high IQ youngsters emerged from the research. Much of it came from highly academic schools aiming their pupils towards prestigious universities. Some youngsters seemed to subdue their personalities while striving for perfect grades, so that their healthy emotional development, including the freedom to play and be creative, was severely curtailed. Such pressure could have the opposite effect from what was intended when school-leavers took unexpected life routes. The worst affected were the accelerated boys specialising in science, eyes on microscopes, who missed out on social relationships. Most of them now say they regret the loss of childhood fun.

Sometimes far too much of the gifted young people's energy had gone into fighting their school regimes and their teachers, supposedly there to help them. Too many had dissipated their time and energies into wrong channels because of poor educational guidance. At times, the youngsters told me that they knew exactly what they wanted to do, but were thwarted by reasons of school time-table or teacher opinion, and went into areas for which they were less well suited. One girl at a high-powered school, for example, was told that biology was not for her. Defying the school's advice, she secretly entered a competition with her own biological research and won. Only then did the school recognise her potential and permit her to study in the subject area of her choice. She is now a research pharmacist.

The social pressures which can diminish a growing child's feelings of worth were not helped much by the universities they attended. For example, there was neither adequate preparation from her school, nor support from Oxford University for the gentle sensitive girl of IQ 170 from a financially poor family. The social hurdles were too much for her and she soon left to take a modest but emotionally secure job. Of course, no institution should have the power to direct the lives of its students, but without some help, especially for those whose home cannot provide it, the final link in a delicate situation can be lost.

Other ways

There are, of course, many non-scholastic routes to satisfaction in achievement, such as the woman of IQ 170 who I had described thirty years earlier as empathetically gifted. Throughout school she was effectively the class counsellor, the one to whom the others brought their troubles. She gained a psychology degree and further qualifications, and in 2005 cares with love and deep satisfaction for the down-and-outs of her city, being neither well paid nor recognisably a high-flyer.

Most subjects with an exceptionally high IQ, whether labelled or unlabelled as gifted, did much better in life than those with an average score, whatever their original socio-economic level. The most successful had found ways of organising their powerful mental abilities: they were more aware and made more efficient use of their personal learning styles. This not only helped them to in examinations, but they could elaborate on their learning and take it into adult life. Most high achievers in adulthood has enjoyed a mutually rewarding situation both at home and school, a feeling of comfort with their desire to learn, based on their parents early pride and support as individuals. The less successful, even with high IQs, had remained with less mature and less efficient, shorter-term techniques, like rote-memorising their lesson-notes.

To support the development of gifted potential most effectively throughout life, it is important to follow indicators such as personal interests (Hany, 1996). Using children's precocity as the prime identifying feature of gifts and talents, with the expectation that precocity would last, could be responsible for their later apparent loss, often called 'burn out'. This may be due to age-peers catching up or the gifted losing interest in the area of their exceptionality. Drawing on my own and others' work, I propose the following system of keeping the door to opportunity open for all giving giftedness a chance to develop in its own manner and time.

Freeman's Sports approach

Freeman's Sports Approach works on identification by provision, by providing a "smart context for learning". It advocates that given the opportunity and with some guidance the highly able and motivated (features recognised as essential for building excellence) should be able to select themselves to work at any subject at a more advanced and broader level (Freeman, 2000b). This does not necessarily mean grade-skipping, but in the same way as those who are talented and motivated in sports can select themselves for extra tuition and practice, they could opt for e.g. extra foreign languages or physics. Of course, such facilities must be available to all - as sport is - rather than only to those pre-selected by tests, experts or money. It is an inclusive formula. This is neither an expensive route, nor does it risk emotional distress to the children by removing them from the company of their friends and age-peers. It makes use of research-based understanding of high ability, notably the benefit of focusing on a defined area of the pupil's interest as well as providing each one with what they need to learn with.

To practice the Sports Approach, teachers need training in differentiated teaching methods, in addition to a variety of specific techniques for bringing out high-level potential, such as helping pupils to collect information for a portfolio. Most importantly, education authorities should coordinate and share the approach and facilities. Recognition of gifts and talent in this way would also include recognition of the provision to which the students had access. This could be done by a rating scale so that children who were excelling within their context would be seen to be doing so and not penalised because they had poorer provision than others to teaching and material to learn with. An overview of the Approach is presented below.

Freeman's Sports Approach

- Identification should be process-based and continuous
- Identification should be by multiple criteria, including provision for learning and outcome
- Indicators should be validated for each course of action and provision
- The pupil's abilities should be presented as a profile rather than a single figure
- Increasingly sharper criteria should be employed at subsequent learning stages
- Recognition should be given to attitudes possibly affected by outside influences such as culture and gender
- The pupils must be involved in educational decision making, notably in areas of their own interest

Postscript

After innumerable hours of interaction and investigation with the individuals in this sample as they grew to adulthood, I had to conclude that many influences on happiness and success are like love – it is possible to say how it feels and what happens because of it, but there is no sure recipe to apply to others. For the rest we do have very clear information about what the gifted and talented need by way of support towards self-fulfilment– an education to suit their potential, opportunities to flourish and people who believe in them.

References

- Arnold, K. D. & Subotnik, R.F. (1994), 'Lessons from contemporary longitudinal studies', in R.F. Subotnik, & K.D. Arnold, (Eds.) *Beyond Terman: contemporary longitudinal studies of giftedness and talent 437-451*. New Jersey: Ablex Publishing.
- Arnold, K.D. (1995), *Lives of Promise: What Becomes of High School Valedictorians?* San Francisco: Jossey-Bass.
- Barab, S.A. & Plucker, J.A. (2002), 'Smart people or smart contexts? Cognition, ability, talent development in an age of situated approaches to knowing and learning', *Educational Psychologist*, 37, 165-182.
- Comford Boyes, L., Reid, I, Brain, K. & Wilson, J. (March 2004) *Accelerated Learning: a Literature Survey*. Unpublished report; Department for Education and Skills, UK.
- Cornell, D. G. & Grossberg, I.N. (1989), 'Parent use of the term 'gifted': Correlates with family environment and child adjustment', *Journal for the Education of the Gifted*, 123, 218-230.
- Deary, I.J., Whiteman, M.C., Starr, J.M., Whalley, L.J. & Fox, H.C. (2004). The impact of childhood intelligence on later life. *Journal of Personality and Social Psychology*, 86, 130-147.
- Dweck, C.S. (1999). *Self Theories, their Role in Motivation, Personality and Development*. Philadelphia: Psychology Press.
- Feldman, D.H. with Goldsmith L.T. (1986) *Nature's Gambit: Child Prodigies and the Development of Human Potential*. New York: Basic Books.
- Firkowska-Mankiewicz, A. (2002). *Intelligence and Success in Life*. Warsaw, Poland: IFiS Publishers.
- Freeman, J. (1998) *Educating the Very Able: Current International Research*. London: The Stationery Office. (www.JoanFreeman.com)
- Freeman, J. (2000a) 'Families, the essential context for gifts and talents', in K.A. Heller, F.J. Monks, R. Sternberg & R. Subotnik, *International Handbook of Research and Development of Giftedness and Talent*. Oxford: Pergamon Press. (669-683)
- Freeman, J. (2000b) 'Teaching for talent: lessons from the research', in Lieshout, C.F.M. & Heymans, P.G. (Eds.) *Developing Talent Across the Lifespan*. (pp. 231-248) London: Psychology Press.
- Freeman, J. (2001) *Gifted Children Grown Up*. London: David Fulton Publishers.
- Freeman, J. (2002) *International Out-of-school Education for the Gifted and Talented*. Report for the Department of Education and Skills, London. (www.JoanFreeman.com)
- Freeman, J. (2003), 'Gender differences in gifted achievement in Britain and the USA', *Gifted Child Quarterly*, 47, 202-211.
- Freeman, J. (2005) 'Permission to be gifted: how conceptions of giftedness can change lives', in R. Sternberg and J. Davidson, *Conceptions of Giftedness*, Cambridge: Cambridge University Press. Pp 80-97.
- Gottfried, A.W., Gottfried, A.E., Bathurst, K. & Guerin, D.W. (1994). *Gifted IQ; Early Developmental Aspects*. New York: Plenum.
- Gross, M. U.M. (2004). *Exceptionally Gifted Children*. London: RoutledgeFalmer.
- Hany, E.A. (1996). 'How leisure activities correspond to the development of creative achievement: insights from a study of highly intelligent individuals', *High Ability Studies*, 7, 65-82.
- Hitchfield, E. (1978). *In Search of Promise: A Long Term Natural Study of Able Children and their Families*, Atlantic Highlands, New Jersey: Humanities Press.

- Holahan, C.K. & Sears, R.R. (1995). *The Gifted Group in Later Maturity*. Stanford, CA: Stanford University Press.
- Mills, C.J. (1993) 'Personality, learning style and cognitive style profiles of mathematically talented students', *European Journal for High Ability*, 4, 70-85.
- Moon, S.M. (2002), 'Developing personal talent', Paper presented at the 8th Annual Conference of the European Council for High Ability (ECHA), Greece.
- Neisser, U., Boodoo, G., Bouchard, T.J., Boykin, A.W., Brody, N., Ceci, S.J. (1996). 'Intelligence: Knowns and unknowns'. *American Psychologist*, 51, 77-101.
- Nettle, D. (2003). 'Intelligence and class mobility in the British population'. *British Journal of Psychology*, 94, 551-561.
- Ostatníková, D. (2004), 'Internal environment and the role of hormones in the development of natural abilities', *High Ability Studies*, 15, 163-164.
- Perleth, C. & Heller, K.A. (1994). 'The Munich longitudinal study of giftedness', in R.F. Subotnik, & K.D. Arnold, (Eds.) *Beyond Terman: contemporary longitudinal studies of giftedness and talent*. New Jersey: Ablex Publishing.
- Peterson, C. (2000). The future of optimism. *American Psychologist*, 55(1), 44-55.
- Plomin, R., DeFries, J.C., McClearn, G.E. & McGuff, N, F. (2001). *Behavioral Genetics* (4th edn). New York: W H. Freeman.
- Ronald, A., Spinath, F. M., & Plomin, R. (2002) 'The aetiology of high cognitive ability in early childhood'. *High Ability Studies*, 13, 103-114.
- Rutter, M. (2005), 'How the environment affects mental health', *British Journal of Psychiatry*, 186, 4-6.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54-67.
- Schaie, K. W. (2005). *Developmental influences on adult intelligence: The Seattle Longitudinal Study*. New York: Oxford University Press.
- Seligman, M. E. P. (1991). *Learned optimism*. New York: Alfred A. Knopf.
- Shavinina, L.V. & Ferrari, M. (Eds.) (2004). *Beyond Knowledge. Extracognitive Aspects of Developing High Ability*. Mahwah, New Jersey: Erlbaum.
- Subotnik, R., Kassin, L., Summers, E. & Wasser, A. (1993). *Genius Revisited: High IQ Children Grow Up*. New Jersey: Ablex.
- Terman, L.M. (1925-1929). *Genetic Studies of Genius* Vols I-V, Stanford: Stanford University Press.
- Trost, G. (2000), 'Prediction of excellence in school, university and work', in K.A. Heller, F.J. Mönks, R. Sternberg & R. Subotnik, *International Handbook of Research and Development of Giftedness and Talent*. Oxford: Pergamon Press.
- Vigotsky, L.S. (1978). *Mind in Society. The Development of Higher Psychological Processes*. Cambridge, Mass: MIT Press.
- Werner, E. & Smith, R. (1992). *Overcoming the Odds: High Risk Children from Birth to Adulthood*. Cornell: Cornell University Press.
- Whalley, L.J. & Deary, I.J. (2001). Longitudinal cohort study of childhood IQ and survival up to age 76. *British Medical Journal*, 322, 1-5.
- White, K.R. (1992), 'The relation between socio-economic status and academic achievement'. *Psychological Bulletin*, 91, 461-481.
- Zeidner, M. & Scheyler, E. (1999), 'The big-fish-little-pond effect for academic self-concept, test anxiety and school grades in gifted children.' *Contemporary Educational Psychology*, 24, 305-329.
- Zha, Z. (1995), 'The influence of family education on gifted children'. Paper presented at World Conference on Gifted and Talented Children, Hong Kong.