OUT-OF-SCHOOL EDUCATIONAL PROVISION FOR THE GIFTED AND TALENTED AROUND THE WORLD

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PART ONE: THE RESEARCH
PART TWO: THE CONCLUSIONS

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1. INTRODUCTION

Taking an international overview on anything, in this case the out-of-school education of the gifted and talented, offers perspectives which can sometimes cut right across anyone's cultural assumptions. Indeed, the international view is important because it can highlight attitudes we all hold without always being aware of where, or from what cultural basis they have emerged. These cultural differences affect attitudes as to who might be gifted and what might be done for them, whether as school-children or later in their lives. Although cultural outlooks can be quite opposing, but they do provide useful templates for different styles of education.

Part One of this report provides a description of how educational systems have arisen to suit national circumstances, with an emphasis on possibly transferable features. Yet whatever the size and influence of educational and schemes centres, there is always overlap between in-school and out-of-school activities. In fact, for any style of provision, cooperation with school is a vital aspect of success. This is as true for what is based in the classroom and spreads outwards, as for what is started outside and finds its way into school. Families too are part of any successful partnership of this kind.

Opinions about the identification of the brightest children and consequent educational practice underlie all provision for their education. This can vary to extremes, even within the same geographical area. In the Scandinavian countries, the gifted are hardly recognised at all, and virtually no special provision is made for them. But then, the standard of basic education there is extremely high, and in proportion to their size, those countries produce as many creatively gifted adults as anywhere. It looks as though what they are doing is right for them. In the USA, millions of dollars go to supporting hundreds of gifted programs, and though there is no proportional shortage of world-beaters there either, it is far from sure how much of their success is due to the programs themselves.

Unfortunately, the use of scientific evidence as a basis for any educational action is less than likely. In spite of considerable searching of the literature and questioning of practitioners, I have not yet found a single scientific comparison, either cross-culturally or within one country of out-of-school programmes. Nor have there been comparisons between one aspect of such a programme and any other. As a result, it is hard to say what type of provision would be the most

appropriate and effective in any given situation. Comparisons have been made between the varied approaches in terms of international competitions, and between national scientific advances and economic success. Because of cross-cultural differences, it is extremely difficult to conduct a controlled experiment as to the relative value of each type of provision within different settings. Therefore, it would not seem wise to copy any action directly from one culture to another without recognising inevitable differences in background and outlook. Outcomes, of course, are also dependent on the enthusiasm, organisation and money put into the schemes.

It is not surprising that carefully selected, bright, keen children will learn more from special enrichment than those who have not experienced it. It would be strange if they did not. Hence, direct comparison between the achievements of youngsters who have attended a particular scheme and those who have not, does not necessarily tell us that it provided the best possible method for enhancing gifts and talents. Additionally , the way in which youngsters are chosen for any activities will affect the outcome. Since there are unavoidable errors and biases in all selection, flexibility is the key.

The growing trend around the world is to offer access to very high-level opportunities to as many youngsters as possible, so that no keen learner is turned away without even a chance of sampling the provision. Some of the most exciting extra-school programmes, such as the American Renaissance Quest Camps, are designed for the whole family rather than specifically for the gifted and talented, yet still provide the educational means and support to take interests to any height. The changes in outlook on out-of-school education for the gifted and talented gaining ground around the world are summarised in this report.

Trends in International Out-of-school Education for the Gifted and Talented

Policy changes		
Haphazard provision	➔	Defined framework
For the benefit of the gifted	➔	For the benefit of the system as a whole
School-type extras	➔	Flexible approach
Provision changes		
Supplementing school	➔	Complementing school
Less selection	➔	More child-led access
Underused facilities	➔	Creative use of facilities
Inadequate facilities	➔	Use of local/national resources
Unstructured holiday time	➔	Structured enrichment

British-American comparisons

Educational institutions are part of every culture's investment in the future and are affected by their demography, economy and technological level. On the whole, the British view is Westwards across the Atlantic to the USA, which is why special concern is given in this report to British-American comparisons. Major differences in their approaches to the education of the gifted and talented are summarised below.

1.1.1. Who is gifted

The widespread Talent Searches in the USA normally select a narrow band of students for gifted programs, based on the top-scoring 1% to 5% on tests. This narrowness does not always sit comfortably with British notions of giftedness where a broader concept embracing around the

top 20% to 25% of the population seems to be more ‘natural’. This is the proportion recommended in the UK government Education and Employment Select Committee Report, 1999, and it is most frequently used for grammar school selection. In practice, teachers appear to prefer this proportion, using it commonly in banding or setting by ability, and in primary schools, when five or six out of a class of thirty are chosen to sit together as the top group.

1.1.2. Social circumstances

Even today, there is a much clearer relationship in Britain than in the USA between social-class influences and educational attainment. As Freeman (2001) found in her 27-year study, self-concept effects can be strong, causing some youngsters to discount themselves from high-quality education. As The English Academy for Gifted and Talented Youth is intended to benefit able children across the whole social spectrum, it has adapted to the broader British acceptance of giftedness, recognising that there is room for a variety of provision.

1.1.3. Education

Standards of attainment. In Britain, educational standards are generally high and rising as recent strategies are being applied. Whether or not the intellectual needs of all the potentially gifted are being met, diligent pupils in good schools will generally find themselves busy, stretched and challenged. This is less likely in the United States where, as international comparisons have consistently shown, children in normal schools much more frequently score at a lower level. There, the need to ‘rescue’ the brightest children from less than satisfactory schooling is probably greater than in Britain.

Diversity of provision. There are relatively more secondary schools (both state and private) in Britain than in America which demand high-levels of work. In such schools, many of the parents aim to get their children into a high-grade university, and extras are more of a ‘top-up’ than an essential, unlike for the potentially gifted with less educational support. For true inclusion, social-class influences seem to demand a wider search and more open access, in addition to selection of the already highly achieving.

Technology. A striking feature of the British educational context, compared with the American, is the rapidly expanding use of information and communication technology (ICT). This is across a range of functions: general skills development, excellent subject content, multi-media resources, interactive assessment, communication, and teacher development. This development of ICT-based materials increases the potential for high-level learning and problem solving. The Academy is planning to make greater use of this facility than CTY.

Differentiation. A major growth in education in Britain over recent decades has been differentiation in teaching, which would be expected to improve the learning of the gifted in the normal classroom. Differentiation involves sophisticated diagnostic work, such as analysis of pupils' individual learning styles, curriculum content and level, and improved use of assessment and individual goals. Although most of the research for this has emerged from the USA, it appears to be far more practised in Britain, differently from the not uncommon American 'lock-step' teaching, where all the class learns at the same pace and depth.

Gender. In Britain, the academic achievements of gifted girls at school are surpassing those of gifted boys in almost all areas of study and at all ages. This is also becoming more common in Europe and Australia. The reasons are likely to be two-fold: greater female confidence in their abilities, and changes in the style and content of curriculum and assessment (details in Freeman, 2003).

In the USA, the researched picture for the gifted is quite different. For example, in mathematics, science and vocational (male type) aptitude scales, "talented" 17 year-old boys scored 8-10 times more frequently within the top 10 per cent (Hedges & Nowell, 1995). For several tests, no female managed to score at all in the top three per cent. However, the researchers found the talented boys to be at a profound disadvantage in literacy skills, by as much as a year and a half. They concluded that there are deep differences in innate abilities between boys and girls across the arts-science divide. Other American work, notably by Benbow *et al*, (2000), found the same "robust gender differences" in mathematical reasoning ability, which they claim to be longitudinally stable. Again, the researchers conclude a genetic mathematical bias in favour of boys.

Winner (1996) writes that when girls start school in the USA, they are identified in the same proportions as boys for gifted programmes, but as they get older, there is a striking fall in the proportion of girls. Although girls make up half the gifted population in kindergarten, this proportion shrinks to less than 30% at junior high school, and even lower at high school. This striking gender difference would not be expected to take place in the intake for the English Academy for Gifted and Talented Youth.

2. PRACTICAL CHALLENGES ASSOCIATED WITH OUT-OF-SCHOOL ACTIVITIES

Problems in selection

The first hurdle to be faced in providing out-of-school activities is almost always selection – whether by teachers, tests, peers, experts or a mixture.

2.1.1. Selection by teacher choice

Teachers' choices as to which children are to be selected for extra resources are certainly limited by what and how much is on offer. Unfortunately, the evidence on teacher choice has not generally been favourable (reviewed in Part One and Freeman, 1998). Even within the USA, the percentages of the child population identified as gifted by teachers vary across the states from 5% to 10% (OERI, 1993), elsewhere the variation is much wider. Additionally, guidance provided by educational authorities would be expected to have some effect on teachers' choices. Yet this can be entirely incorrect as in the Personal Growth Check-list for gifted children, given complete below (Northamptonshire County Council, 1994, p 15, taken from George, 1992). Not a single normal feature of a child is presented for the teacher to look for.

> "Prefers friendship with older pupils or adults.
> Excessively self-critical.
> Unable to make good relations with peer groups and teachers.
> Emotionally unstable.
> Low self-esteem, withdrawn and sometimes aggressive."

Lack of essential information and wrong interpretation of theory, such as that of Multiple Intelligences, may also cause errors in selection. It does not seem wise to give teachers absolute authority in deciding pupils' educational directions, because their choices are not sufficiently reliable. Even the two-step procedure of teacher selection followed by tests should be carefully

monitored, because the initial teacher selection can be somewhat biased. And yet … many teachers can be very perceptive, spotting and nurturing talent which others have missed.

2.1.2. Selection by achievement

This is probably the most frequently used criterion for selection of children as gifted around the world. These are pros and cons:

Possible debits of selection by achievement:

An early focussed education can restrict possibilities
Children may wish to change from a focused course
High pressure to achieve academically can limit creativity
The child's self-concept can be affected, by e.g. taking on the 'gifted' role
Socially divisive
Balanced achievement lost due to influences of e.g. gender and socio-economic status
The wrongly rejected can lose appropriate education and life chances.

Possible benefits of selection by achievement:

Stimulus from ability peers
Increased motivation
Possibly better teaching
Smaller groups to learn in
Lower academic frustration
Parents may be more involved
The best predictor of future achievement is present achievement

2.1.3. Selection by intelligence

There is some lack of evidence as to the newer interpretations of intelligence, which requires some care to be taken if they are to be used as models for selection and provision. For example, the use of Gardner's theory of many distinct intelligences could hamper potential excellence,

were a child to be slotted into the wrong ‘intelligence’ learning group. The reply I received when enquiring into the evidence for Gardner’s Multiple Intelligences from its centre, Project Zero, was interesting:

> “Thank you for your interest in the work of Project Zero. We do in fact, have a publications department which can be found on our website at http://pzweb.harvard.edu under Products and Services. As far as specific data and statistics, we do not have anything like that available. We generally recommend doing a search through dissertation/thesis topics and works at a university's library.”

Even using the classical forms of intelligence testing for selection (e.g. Stanford-Binet and Weschler), still practised in the USA, there is considerable doubt. For example, by the ages of 40 to 50, not one of a sample of 210 New York children selected for the Hunter School for the Gifted by their high-IQ scores (mean IQ157) had reached greater eminence than matched individuals who had not had that broad rich education (Subotnik, *et al*, 1993). To select by IQ alone erases the effects of personality and motivation, which can be at least as effective in enabling gifts to reach excellence.

2.1.4. Selection by peers

The selection of children as gifted by their age-peers can only be part of a wider view. Though children are intuitive, they are not experts, and can easily be swayed by fashion and popularity.

In Montreal, Gagné (1995) asked 4400 pupils, mostly in mixed-ability classes, to choose and rank the four classmates they thought were the best in a particular category - intellectual, creative, socio-affective and physical. Boys and girls were ranked very differently: boys were most frequently chosen for masculine attributes such as physical or mechanical-technical abilities or business, whereas girls were chosen for language, social strengths and art. Although the researchers recognised gender stereotypes and pressures, they accepted these as the children’s actual talents, and regarded the peer judgements as correct. But no comparisons were made with any objective tests of abilities, nor of the children's self-estimates. The likelihood of classmates, especially young ones, discovering hidden potential seems slight. Would any child

say, “Yes my friend is good at arithmetic, but if he were only given the opportunity, he would be a great potter”?

2.1.5. Self selection

The gifted are themselves an active part of the selection process in open-access schemes. But modest children and those influenced by lower social-class expectations, will probably need emotional support to see themselves in their best light. It would be part of the teacher’s remit to watch out to see that no child is side-lined because of inhibiting circumstances.

Non-selection challenges in out-of-school provision

Transfer. What is learned in one setting cannot be assumed to be transferable to another. Montgomery (2001) points out that, “It may be good for the participants at the time, but lacks any kind of performance or transferability.” (p.262). Much of the activity provided as ‘bolt-on’ for the gifted is the intellectual gathering of information rather than the transferable development of cognitive thinking and problem-solving skills. So, increasing the speed of gaining knowledge does not necessarily benefit the learner because of the difference between deep learning and superficial learning.

Teaching. Out-of-school education for the gifted and talented calls for something more from teachers than knowledge and technical skills. Personal qualities, always an indispensable part of their teaching equipment, become particularly important. Understanding the role of teachers and the instruction itself is central to the process of talent development.

The role of high-quality instruction has been judged critical to talent development (Ericsson, 1998). This must be sensitive to a student’s level of functioning, provide direct teaching to raise that level, and also be accompanied by honest feedback and reinforcement, tailored practice and evidence of attainment. If teachers are to be able to provide such quality of instruction, they will not only need pedagogically relevant expertise, but know a field well enough to guide ways for talented learners to reach new levels of attainment.

Involving teachers in out-of-school education, which eats into their free time, must offer some worthwhile reward for them. As well as monetary rewards, teachers also appreciate the opportunity to teach creatively and having good quality resources to teach with. I have heard teachers say that the delight of working with bright, committed learners brings them great pleasure and a feeling of being real teachers.

Creativity. Creativity is an elusive factor in its relationship to giftedness and talent development. It is sometimes the victim of heavy academic learning and many high-IQ people are not creative (Sternberg & Lubart, 1995). Views of creativity have evolved through a century of theory from the Freudian (suppressed desires), through the Maslovian (self-actualisation), to the Rogerian (relating to others). Research has tended to focus on trait theories that focus on the creative personality; one which has the characteristics of independence, risk-taking and freedom from social conventions. These characteristics can possibly be encouraged and developed by giving 'psychological permission' to the child to experiment and more importantly to make mistakes - something often denied to the high-aimer in a pressured learning environment.

Emotion. The role of affect in the talent development process has been seriously undervalued. Pupils need passion to develop excellence, even in cognitive functions. We have some understanding of the mechanism of intrinsic motivation, and the concept of 'flow', Csikszentmihalyi's (1982) term, but are less clear how to produce it. What types of experiences are helpful for energising gifted students in this way? The issue of timing appears critical - when is a student 'ready' to receive high-powered opportunities, and is effort wasted if it not offered at the pupils' demonstrated time of readiness?

Self-initiation. Self-initiation for learning is also a critical variable in achievement. Many of the models described in this report, notably entry to the open-access courses, depend on individual initiative. Yet only a small proportion of youngsters exhibit this at levels associated with giftedness. What strategies can best stimulate self-initiated activities on the part of the gifted to move on to higher levels of learning and creativity?

Age of starting programmes. An early start on out-of-school educational programmes for the gifted is usually considered important, yet case-studies abound of late starters who became world famous (Simonton, 1998). There are, it seems, influential variables in the environment which cannot be controlled. From considerable biographical data, it can be seen that the combination of talent and creativity needs the right learning circumstances at the right time in order to flower. Educators, however, can only provide and hope.

Parental pressure. There is some evidence of concern among American program administrators that, due to parental pressure, students who are not truly gifted are being admitted into some special gifted programmes (Merante, 1996). Hence, not only do they have difficulties because they fail to keep up with the pace of instruction, but the genuinely able are denied a suitable pace and depth of learning, as teachers try to accommodate the whole group.

3. VARIATION IN INTERNATIONAL OUT-OF-SCHOOL EDUCATION

Because out-of-school education is not part of the normal school curriculum, it is not programmed, executed or evaluated in the same way, which makes it problematic to know exactly what educational effect it may have. Additionally, because it is not compulsory, it must be sufficiently attractive to the participants for them to attend and finish the course. Courses are usually intended to broaden horizons, and to be mutually enriching with the basic curriculum. In spite of their name, they can take place either in or out of the school building: and there may be great overlap e.g. pull-out sessions from the normal school day may take children out of the school.

The community can participate in different ways, such as an audience (at the school play) a provider of resources (the school mini-bus), or being involved (hearing little children read), or indeed parents setting up independent out-of-school education for their children. Such activities are almost infinitely varied, depending on the energy and resources available for them. Yet they all have the same aim of providing education that is extra to what the school provides, for the benefit of children with a high potential.

I have seen much of the very varied specialist provision in action around the world. For example, in the slum schools of Brazilian Favellas, precious paper, scissors, paint and space had been put aside for the brightest children within and out of normal school hours, though teachers can wait months there for their own small remuneration. In comparison, some opulent North American programs offer the finest well-paid teachers, mentors and practical facilities to their selected students. In African shanty towns, I have seen bright children taken out of class for special lessons in the red dust, and in Germany have witnessed open competition winners reach incredibly high standards. Each type of provision can be successful within its own culture and means.

Though it is difficult to point to a correlation between a country's cultural attitudes towards giftedness and the overall attainment of its young people, in the OECD (1999) comparative PISA study, the countries with the highest performing young people were Finland and Korea, which have notably comprehensive approaches to schooling. The USA, which has by far the most

developed activity in the gifted domain, was a weak performer. Britain's performance was high, though the cohort of young people who provided the data received a school education which had not yet been touched by any of the current gifted policy initiatives. Much appears to depend on the overall standard of basic education, which is of course related to the standard of living and thus opportunities for individual development.

Attempting to bring some order into the large collection of the world's variety of out-of-school programmes, it appeared to me that there was a profound split in approach to gifts and talents in children, which accordingly affects any provision they may receive. This is due, it seems, to the following major cultural dichotomy. Each half of the globe sees its view as a universal 'truth'.

The Western view - Only some children have gifted potential

For about 150 years, it has been taken for granted in the West that human abilities are largely innate and fall along a measurable spectrum, this being largely genetically determined. Thus, measured abilities would be presentable in a linear way, either in a straight line or in a bell curve, as we know so well in the description of IQ differences. Accordingly, all one needs to do to identify the gifted is to work out how best to measure abilities, choose a high cut-off point, and select those who score above it. Most Western concern with gifts and talents today continues to be measured in that way, including the current UK government plan for teachers to select the top 5% in each secondary school as gifted and talented for special provision. If there is to be a cut-off point there must be an aligned set of criteria to be cut off from. It is the dominant idea and practice in the USA, the country which produces the most prolific and influential research.

The Eastern view - Almost all children have gifted potential

In the Far East, environmental influences are seen as dominant, such that the teacher's behaviour is a vital aspect of the child's future. Every baby is born with similar potential, the main difference between individuals is in their rate of development. To a large extent progress and success is in the power of each child (and teacher) to fulfil through hard work.

The five major styles of out-of-school provision for the gifted and talented are described and compared below.

Styles of Provision

3.1.1. The Talent Search

Talent Searches select highly achieving children of all ages by tests which result in a linear measure, so that a high cut-off point can be used to designate the gifted and talented who score above it. The Searches are predominately American, but are also conducted in Germany, Australia, Israel and elsewhere. The model assumes some children to be innately superior in ability to others, this ability being measurable so that an appropriate education can be provided for its actualisation. The benefits are that children who make it onto the courses and summer-schools are provided with high-level, varied and stimulating education, and acceptance can lead to improved life-chances. Teachers are usually well paid to give up their holidays for the summer-schools, and say they very much enjoy the excitement of high level teaching.

However, though some allowance is made for unrecognised potential, many Searches fail to net proportionate numbers of different groups in the population. For example, technical courses in the United States are sometimes entirely filled by boys of East Asian background. Youngsters, who are possibly of equal potential, may fail the tests or choose not enter the testing arena. Just-missed applicants could possibly have achieved as well - given access to the richness of provision of those who were accepted. The Talent Searches and summer-schools depend on a great deal of money, provided not only by generous private donors, but by parents. In Canada and Holland, Talent Searches have been started but eventually failed because of lack of financial support.

No immediate and visible surge of national excellence has been measured from the very many thousands of American youngsters who have passed through these programs since the 1930s. As there has never been any comparison between programs, **so** it is impossible to know which aspects of the education that any Talent Search provides are the best or most appropriate for that society. Outcomes are confused because of the predominance of keen well-to-do children on the courses and the excellence of their provision.

The Talent Search outline:

Principle: Highly achieving youngsters selected for extra education by teacher recommendation, portfolios and tests.

Predominant countries: USA, Germany, Australia, Israel.

Assumptions: Gifted children can be distinguished and nurtured appropriately.

Pros: Those selected receive excellent extra education and improved life-chances.

Cons: May miss youngsters of equal potential. Expensive per student. Not always representative of the population.

***Outcomes*:** Difficult to specify. Confused by high proportion of well-off students. No comparison between programs.

3.1.2. Self-selection by provision

The Children's Palace concept is that children's interests, allied with opportunities will enable them to excel. Palaces are widespread and popular in China, being local centres where children can gain enrichment and higher-level learning. The model relies on the children's motivation for success (Freeman, 1998). A Palace can simply be a large house with rooms crammed with activities or a multi-story purpose-built edifice, serving thousands of children at weekends. The Beijing Children's Palace, for example, was set up in 1954, and has had 100,000 students every year in recent years, whereas a Shanghai Children's Palace, which I visited, was small and homely.

The Palaces are freely available to all: no child is tested for entry and thus no child is turned away. Those who want to take their chosen subject area further must make a contract to come for a specified number of lessons. If they do not attend them all (without good reason) they cannot continue. Some come for years and reach breath-taking standards in their chosen field. Normal teachers are paid extra, but not well, for this work. I was told by several that they do it because they get great pleasure from this 'real' teaching. The evidence of its effectiveness,

though, is difficult to quantify, although China's successes in international competitions, both intellectual and sporting, are outstanding, especially for a still poor country.

Children's palaces in China are a thriving and integral part of the education scene, providing out-of-school activities across the arts, sciences and technology and more (Coles, 2002). They provide drop-in sessions, clubs, classes and summer camps, with strong emphasis on high quality of both teachers and learning facilities.

Self-selection by provision outline:

Principle: Open provision and child-led learning enables excellence.

***Predominant countries*:** China, ex-Soviet Union, New Zealand, Israel.

Assumptions: Children's interests allied with opportunities enables excellence.

Pros: No child barred by tests or money. Many facilities already available.

Cons: Without concerted organisation, provision could be patchy. Children may be psychologically inhibited from applying.

Outcomes: Difficult to pin-point, but Far Eastern successes in international competitions are increasingly outstanding.

3.1.3. Hard work

In Japan, all primary-age children are regarded as similar in potential so that differences in their achievement are due both to the their hard work as well as the teacher's competence. The potential long-term rewards for the diligence these small children must shoulder are in their choice of secondary school, providing access to university, followed by a good career – and a good pension. It is possible that this style of learning is even enhancing the IQ scores of Japanese children, which are rising in accord with their improving academic grades (Flynn, 1991).

In almost all international comparisons of children's achievements, those of East Asian elementary and secondary school pupils have been outstanding, even among the top performers.

In the TIMMS (1999) study, "the top four of the 41 participating countries in mathematics, and three of the top four countries in science, were from East Asia" (Stevenson *et al*, 2000. p. 167). Yet East Asian children show no special precocity in mathematics during their preschool years; their rise to success starts at school. Nor is this excellence limited to a few star performers as in the West: the overall achievement standards are excellent – and rising.

Hard Work outline:

Principle: Success depends on the hard work of both child and teacher.

***Predominant countries*:** Japan, Korea, Taiwan, Singapore.

Assumptions: Each child starts with similar potential.

Pros: Child, teacher and parent are expected to work together, supported by research evidence.

Cons: Pressure and work-load on the child can be heavy, cutting into creativity and leisure, and causing distress to children and parents.

Outcomes: Educational surveys show Far Eastern success outstanding.

3.1.4. Competitions

Competitions provide the single outstanding kind of universal out-of-school activities for the gifted, though they are not always recognised as such. They are relatively easy to administer and organise, and can be made accessible to large numbers, but at the same time differentiated to suit any level of ability. Although at first glance competitions appear to be passive, in only tapping what is already there, in fact they are active in eliciting, stimulating and challenging talents in many fields. Because they can activate and strengthen the feeling for the subject matter, they improve knowledge and skills. Struggling with the tasks of the competition enhances the abilities to work autonomously, while researching, experimenting, problem solving and persevering.

Competitions outline:

Principle*:* Prizes of e.g. summer schools, educational foreign travel and/or entry to the best universities are offered to youngsters who are chosen (usually by expert opinion) as the best in their field for their ages.

Predominant countries**:** Germany and Eastern Europe, but competitions are found all over the world and in all fields.

Assumptions: Children who are talented are also ready and keen to compete.

Pros: Competitions are open to all, and the glittering prizes and prestige attract youngsters to prepare for them.

Cons: There is no concern for previous facilities for learning, so that children from poor circumstances are handicapped. Youngsters who are more introverted, or who prefer to get on by themselves are denied the benefits of the extra educational help they could win. By their nature, as with Talent Searches, competitions are highly selective, so that equally-able non-winners will not receive extra help. They appeal more to boys than girls.

Outcomes: Standards can be extraordinarily high. The prizes for the winners can give serious help to individual careers, as seen in Russian music competitions or international Chess championships.

3.1.5. Voluntary Provision

Parents are generally the first adults in a child's life to become aware of the child's talent. Bright children may benefit from supplementary parent-organised activities, which they may run themselves or engage experts. Though for many parents, working on their own to provide for their bright children can be difficult. When they seek professional help and advice from paediatricians, teachers, school psychologists or educational counsellors, they are sometimes confronted with ignorance and prejudice about gifted and talented children and imputations that they are ‘pushy’ parents.

Parent provision is included in this report because it is so widespread internationally, though it is not centred, other than locally, and the variation in local activities is as wide as between the individuals who organise them. The parents of highly able children in many countries have established self-help groups in the form of associations which provide out-of-school activities in a much more professional way.

Voluntary Provision outline:

Principle: Concerned adults provide extra education for bright children.

Predominant countries: Almost everywhere in the world.

Assumptions: The educational system not providing adequately for the gifted and talented.

Pros: Access to activities usually open. A force for positive changes to national systems.

Cons: Not usually in concert with schools. Not concerned with children whose parents are not members. Provision can be amateur.

Outcomes: Quality and outcomes unknown.

4. MAJOR CENTRES

This selection of Major Centres aims at describing a manageable number, while at the same time pointing out ideas practised in other types of provision which are either more widely spread or have less status. Major Centres of out-of-school education for the gifted and talented are normally supported by universities, governments, and voluntary or charitable organisations. Where the provision is made by a university, it is not uncommon for this to be in association with government, involving some form of charitable organisation in the handling of finances, though university statutes will affect what can be done.

Additionally, around the world, the distribution of specialist centres for out-of-school education of the gifted and talented varies from lavish to nothing, with all the rest in between. But then, excellent out-of-school provision is not always in recognisable centres, but is available within the local community.

Contrasts within the same geographical area:

Australia and New Zealand. In some Australian States, (notably Victoria and New South Wales) provision is generous and often by Talent Search, while in others (e.g. Queensland), attitudes to the idea of giftedness as élitism prevent any special provision. Yet relatively nearby, the New Zealand government provides substantial out-of-school opportunities nationwide. The varieties of provision there are generally available on an open-access basis, rather than through any form of selection.

Japan and China. In Japan, there is no specialist out-of-school provision, though many hundreds of Juku schools act as crammers for school-type learning after school hours. Until the end of middle school, all pupils are treated as having similar potential, though high schools select by examinations into academic and vocational routes, the schools themselves being ranked and graded for selection. The contrast is extreme with China, where widespread Children's Palaces work alongside other specialist forms of education, and the most able children can take specialist classes, including early entry to university.

Israel and the Arab and African world. Israel not only has a government ministry for the gifted and talented, but offers a great variety of provision nation-wide. This includes specialist schools, open-entry courses and selective after-school education. There are enrichment magnet centres one day a week, and extra-curricular enrichment after school in which many thousands of pupils take part. Summer-schools for gifted youngsters also operate, notably in scientific disciplines, such as at the Weitzmann Institute. In the Arab world and Africa there is almost nothing. Both seem to have a cultural aversion to the notion of giftedness in secular terms.

Across Europe. The Nordic countries offer almost nothing by way of special education to their most able children, exhibiting a determinedly inclusive and egalitarian approach to education, which is dominated by community-based comprehensive schooling. East European countries, particularly the ex-Soviet Union, have traditionally nurtured world-class attainments of children identified young as potentially gifted or talented, notably in sport, music, mathematics and chess. In Central and Southern Europe, movements for the special education of the gifted and talented are slowly taking shape.

The USA and Canada: American parents spend many millions of dollars every year to promote all sorts of gifts in their children at specialist camps and after-school classes. There are thousands of initiatives in the USA, some marked as for the gifted and many not, but an extremely high level of opportunity is widely available. Yet though some States are accepting of the special needs of the gifted, others are not. Canada is much less concerned with giftedness and has far fewer initiatives: in fact, some of them are closing through lack of support.

Concerns in the selection of Major Centres for out-of-school activities

Multi-activities. Out-of-school provision is only one aspect of the work of centres for gifted and talented pupils. They also carry out research (normally on their own work), the professional development of teachers and support for school-based provision. Most offer a mixture of these aspects. As this report deals with out-of-school programmes, it does not highlight centres which may be well known, but which concentrate on research and the professional development of teachers.

Not centred. The word 'centre' can be too limiting to incorporate valuable work which is organised by state and municipal authorities and spread throughout the educational system. Although a centre can be clearly identified as a physical and organisational entity, when it is housed in an organisation, such as a department of a university, from the consumer's point of view, what matters is the provision at the point of use. If the provision seems reputable, few consumers are likely to be interested in tracing the legal structures, governance arrangements or funding. For this reason, the notion of 'centres' has been interpreted as including major schemes of organised provision which are of significance in a global survey, regardless of whether they are constituted as a distinct entity.

Selection differences. Participants in programmes vary to extremes. Whereas some select only the top 1% by ability, others provide open-access to almost everyone who would like to try it. However, the research about the ability levels of the open–access participants has not yet produced results. There are also many mid-way positions between these extremes. Although open-access is not literally a centre, it has been included in this review because it is certainly a major form of provision, and has demonstrated a different route to world-class excellence.

Size of population. The absolute number of pupils participating in a programme is one criterion for prominence. Numbers depend on how long the programme has been in action, its popularity, funding and the size of the population it draws on. But where numbers are

relatively fewer, but the programme is significant in relation to a nation's overall education system, it has also been recognised as major.

Factors affecting the distribution of Major Centres:

- Cultural beliefs about giftedness
- Economic development
- Size of country
- Structure of educational system
- Standards of education
- Provision for gifted children out-of-school

Selected major centres

The following have been selected as major out-of-school learning centres for the gifted and talented world-wide (excluding the UK). The snapshot descriptions below are highly simplified and certainly do not do justice to the scope and complexity of their work. Details, including contacts **and** web-sites and discussion of different types of provision, are to be found in Part One of this report.

4.1.1. The Talent Search Model

The essential features of the Talent Search, which dominates American provision, are the presentation of children as suitable by their teachers, followed by selection via grades on tests. Winners are offered summer and other intensive courses in small groups and excellent surroundings, the subject content being at a more advanced level than in regular schools. They have a social programme, but those who do not fit in are normally sent home.

The most prominent example of this form of Talent Search provision is the Centre for Talented Youth (CTY) at Johns Hopkins University. This is the start-up model for the English National

Academy for Gifted and Talented Youth, with which CTY has a formalised relationship. CTY has other nascent international relationships, such as Bermuda and Spain.

This search-and-provide program is also carried out by many other institutions in the USA, most notably the five which collaborate with CTY - Duke University (Talent Identification Program, TIP), Northwestern University, the University of Denver, Arizona State University and California State University at Sacramento. In this cooperative endeavour, each center covers a selected group of states as its Talent Search region. Although they are theoretically independent of one another, Talent Search participants from one region may apply for the programs of another. Other university centres offer similar intensive academic programs, e.g. Western Kentucky University, the University of Southern Mississippi, Northwestern State University and Southern Methodist University.

Within the Talent Search model, CTY at Johns Hopkins University offers the largest provision by a considerable margin. Participation is spread unevenly across ethnic groups. Oriental Americans, e.g. Koreans and Chinese, are possibly the most over-represented at about 40%, as are Jewish children. White Americans are under-represented, and so are Blacks. Recently, a second stream of lower-scoring children (around the top 5%) has been instituted to drawn in some of the under-represented groups. Courses for these lower-scoring students are at an appropriately lower level.

The fees charged to participants' parents vary widely between types of provision and according to the nature of the programme. Most organisations offer a few scholarships for potential participants who would otherwise be prohibited by financial hardship. At CTY in 2001, participants paid between $25 and $75 in test fees, then, typically, $1045 for a three-week day-only programme, or $2260 for a three-week residential programme, though many fees reach the $3000 mark. In addition, distance learning courses are available at $490 for a three month session. In 2001, CTY received $26m income, comprising $23m in fees, $2m in gifts, and $1m from other sources. Expenditure included $18m in programme delivery costs, $3m in student aid and $4.5m in administration.

Examples of the Talent Search model

Name	**The Center for Talented Youth (CTY), Johns Hopkins University**
Country	USA
Provision	An extensive range of summer-school programmes, academic conferences, distance education, and related testing services. Often in very high level educational facilities and accommodation.
Access	Initial Talent Search by teacher-selection followed by test scores. Cut-off points used for different levels of provision.
Attendance	Approximately 25,000 annually
Fees	High, up to $3000 for a three-week course
Organisation	University associated

Name	**The Connie Belin Centre for Gifted Education, University of Iowa**
Country	USA
Provision	Summer programs for elementary, junior high and high school students, and related information and testing services. Some new buildings to house the courses have been specially built.
Access	Talent Search by teacher-recommendation and test scores
Attendance	Approximately 1000 annually
Fees	High
Organisation	University

Name	**Gifted and Talented Education (GATE), University of Calgary**
Country	Canada
Provision	School-based programme of special classes, events and enrichment. Also summer-school courses and weekend activities.
Access	Psychological tests and school nomination. Includes gifted students with special educational needs e.g. learning disabilities.
Attendance	Approximately 600 annually
Fees	High
Organisation	University, supported by Calgary Board of Education

Name	**Gifted Education Research Resource and Information Centre (GERRIC), University of NSW, Australia**
Country	Australia
Provision	Predominantly in-school enrichment or acceleration following high achievement in diagnostic tests; also a holiday enrichment programme.
Access	Talent Search test scores
Attendance	Approximately 70 in summer-school annually
Fees	High
Organisation	University

4.1.2. Child-led extra education

Varied and widespread extra educational activities are notable in New Zealand, Israel and China, though these countries also provide varieties of Talent Searches, competitions and individual initiatives. The Chinese Children's Palaces are the most significant form of widespread out-of-school provision. Although these began in the Soviet Union, they are now very much stronger in China. Their distinctive feature is the provision of a wide variety of forms of activity and high-level learning, from which pupils can choose according to their interests, stage of development, and degree of motivation and commitment.

This is quite different from the Talent Search, in that the basis is self-selection. The provision is fundamentally open-access, although levels of commitment and sometimes suitability for the activities have to be shown first. In Israel, eligibility is defined through testing within the school system, for Arabs and Jews alike. In the CEDET scheme in Brazil, prolonged and complex methods of observation are used for a system which is partly child-led and partly adult directed.

Modest fees are normally asked for this extra provision, even when offered by governments as part of the state education service. In China, for example, charges are similar to those made for other kinds of municipal services, such as libraries and swimming pools.

Name	**Ministry of Education, New Zealand**
Country	New Zealand
Provision	Extensive out-of-school programmes of stimulating activity offered through dozens of providers including museums, centres, galleries etc. Learning Experiences Outside the Classroom (LEOTC) and other set-ups provide high-level learning opportunities for all.
Access	Open-access, i.e. generally self-selection
Attendance	Thousands annually
Fees	Negligible
Organisation	Government

Name	**Israeli Ministry of Education**
Country	Israel
Provision	In partnership with other organisations, the Ministry offers enrichment magnet centres, extra-curricular courses after school, dual university enrolment, and university enrichment programmes.
Access	Students officially classified as intellectually gifted (percentile 98.5)
Attendance	Approximately 12,000 annually
Fees	Low
Organisation	Government in partnership with universities and charitable foundations. District and municipal authorities make local provision.

Name	**Children's Palaces**
Country	China (others in the ex-Soviet Union)
Provision	Mainly week-end and holiday provision, offering new and different activities, through classes, trips, lectures and holiday courses. This varies from simple to Olympic standards.
Access	Open-access, i.e. self-selected
Attendance	Millions annually
Fees	Negligible
Organisation	Government, through the county/district/municipal authorities which provide schools

Name	**Centre for Talent Development (CEDET)**
Country	Brazil
Provision	Enrichment activity located at the Centre, focusing on the emotional development of gifted children, including projects, interest groups and ‘encounters’, all based on individual work plans.
Access	Complex observation of attitudes and attributes over an extended period.
Attendance	Approximately 800 annually
Fees	Low (financially supported by government and municipality)
Organisation	Government (through the Municipality of Lavras) in partnership with the Federal University of Lavras.

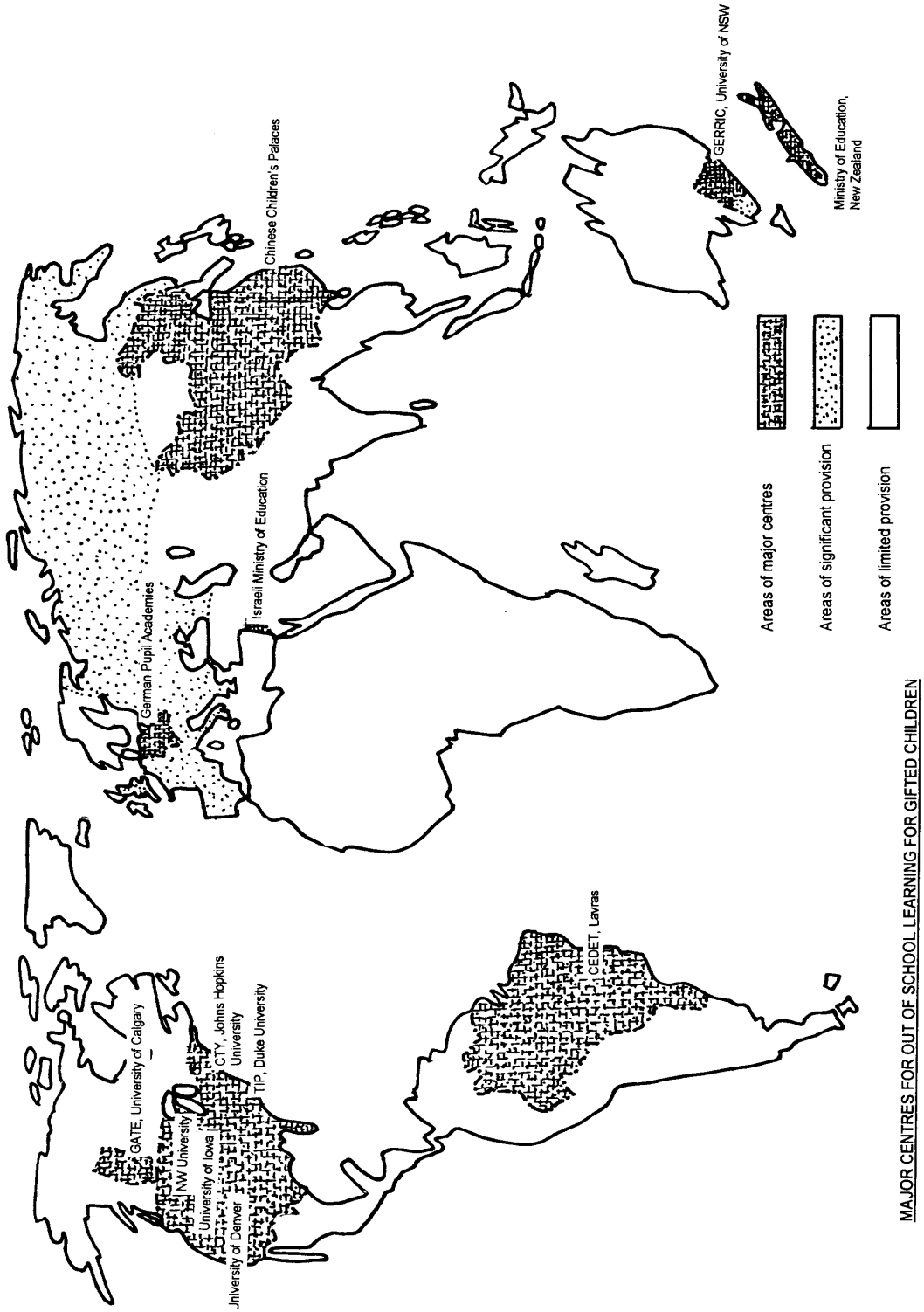
4.1.3. Competition

Competitions are widespread throughout the world, but have reached a fine level of sophistication in Germany. Resultant summer-schools offered to the winners are almost equally comprised of students recommended by their schools. The resultant composition is of extremely keen and motivated gifted people.

Name	**German Pupil Academies**
Country	Germany
Provision	Mainly 16-day summer academies covering a wide range of subjects, offered at several locations around Germany. Standards are extremely high.
Access	Competitions offered in a wide range of subjects, and school recommendations
Attendance	Approximately 630 annually at summer academies
Fees	Moderate (subsidised by government and private money)
Organisation	Charitable organisation (working with Federal Ministry of Education and Sciences)

World map of distribution of provision for out-of-school education

This map of the world is divided into areas with major centres, significant provision and very little or none.



5. EVIDENCE MATTERS

The aim for excellence for the gifted and talented not only applies to the learning of the participants, but also to the provision and its evaluation. Evaluation helps to enhance the provision, its impact and its further development. It provides useful information for establishing need, justifying certain approaches and documenting the integration of services with schools. Funding agents and potential donors need information on cost-effectiveness and to know what impact the work is having.

However, all over the world, in spite of copious amounts of energy and money spent on programmes, there is a distinct lack of objective evaluation in terms of their reliability and validity (see Freeman, 1998). Whether it concerns teacher-training, continuing education, the professional work of school psychologists, counsellors, or educational advisors, practice or theory, one cannot assume that the effort is producing the hoped for effects. A good heart and belief in the system is not enough. Evaluation of some sort is essential to find out how a the programme works, how effective it is, and how to maintain standards of high quality.

Developing an evaluation plan is a critical element of out-of-school education for the gifted and talented, and should be part of the initial set-up. It is more usual, though, to plan evaluation after the programme has been running for some time, even years, because the organisers want to see their work viewed at its best, i.e. when it is running smoothly. Yet when evaluation is built into the plan, services can be seen both formatively and summatively. Formative evaluation (usually conducted during implementation) can be used to make sure the provision is accomplishing what it was meant to accomplish. Summative evaluation (conducted after the program is fully implemented) looks at whether the provision is accomplishing its goals and objectives.

The basic questions about out-of-school provision for the gifted and talented concern justification:

- Are the money and effort justified by the results?
- Is the provision appropriate for high-level potential, or is it yet more school-style learning, or simply entertainment?

There are particular hazards in measuring the effects of educational programmes for the gifted. Some researchers are doubtful about the suitability of applying normal educational models and methods of evaluation at all, the gifted being seen by them as too exceptional. And it is true, for example, that normed tests, such as the IQ, are not reliable at the top end of their spectrum of measurement and so present bias (particularly the ceiling effect because the upper limit is too low). It is also true that enrichment programs boost IQ measurably at the start of a programme, then little more, after which the effects can fade away after children leave (Dickens & Flynn, 2001).

Not only may enthusiastic practitioners have little understanding or concern for scientific methodology, real-life situations present great complexity in sorting out what is happening in this scarcely mapped area of education. Perhaps this is why comforting case histories of success so often take precedence over scientific evaluation, and much so-called 'evidence' simply describes the positive feelings of the participants towards their experience (e.g. Koshy & Casey, 1997; Kerry & Kerry, 1997). But the 'feel-good factor' is not enough to merit energy and expense. Many people are willing to provide their personal judgement on whether an activity seems to be working, but (as anyone who has ever sat on a committee will have noted) opinions can vary to extremes, and some carry more sway than others. Something as emotionally packed as the education of gifted children requires a professional approach. The American expert in this field, Callahan (2000, p.537), put it pithily:

> "It is rare for a school division to evaluate and it is even rarer to find evaluations that document the processes or outcomes of their services in ways that confirm that the needs of gifted students are being met through provisions not possible within the framework of the general educational program. There is little documentation that the curriculum is sufficiently challenging and provides a depth and complexity of learning that could only be realized by those students identified as gifted. Finally, there is little evidence that the students are benefiting from it."

Evaluation Questions

Different evaluation questions require different kinds of data collection, for example:

Evaluation Question	**Type of Evidence**
1. Does the provision benefit the participants in the short term?	Feedback from the participants. Analysis of participants' attainment pre- and post-event. Inspection
2. Does the provision benefit the participants in the long term?	Longitudinal case studies taking account both of positive and negative effects.
3. Is it only the gifted who can benefit directly from such provision?	Experimental studies involving summer school provision of similar kind but pitched at different ability levels. Comparison of 'value added' at each level of ability.
4. Does the provision benefit indirectly the rest of the class/school/wider system?	Studies of the participants' schools, including the effects (positive and negative) on the pupils who did not participate.
5. Does the provision benefit curriculum development and professional development of teachers?	Studies of how the teaching methods and resource materials developed for use with gifted children are disseminated, and whether this leads to better teaching differentiation in mainstream schools.

Before and after

Almost all evaluation attempts to assess the input-process-output variables, i.e. the before-and-after educational treatment.

- *Input* variables are the culturally accepted defining characteristics of gifted children, usually advanced achievements, maybe including personality characteristics and social behaviour.
- *Process* variables, the treatments, are the activities, including curricular or extracurricular teaching-learning processes or others such as competitions.
- *Output* variables are the effects of the treatment, in terms of attitude or achievement changes supposedly caused by programme participation (see Davis & Rim, 1998).

However, comparison between even two treatments, even in the sense of a quasi-experimental studies, are unknown to this writer, in spite of considerable investigation.

5.1.1. Evaluation concerns

Psychological aspects. Evaluation is not always seen by practitioners as a welcome part of their work; it is at best a nuisance and at worst a threat. They may be fearful that their provision does not appear to be as valuable as they would wish, being neither theoretically well-founded nor with measurable outcomes. Anxieties can be allayed by providing information about the goals and methods of the evaluation at the planning stage, and pointing out creative possibilities and advantages for practitioners (Callahan, 2000).

Definition and description of the programme goals. These must not only be clear, but clearly aimed for. Evaluation is concerned with whether the participants are moving towards those stated gaols.

Isolating the effects of the programme. The programme description should be exact enough to permit precise questions for selection of methods, data collection and interpretation. For example, is the provision appropriate to each individual learner's special gifts? Is it in tune with, or detracting from, daily schooling?

The right questions. Questions should not only refer to the programme itself, but qualitatively address the values, interests and expectations of those involved.

Selecting experimental and comparison groups. Choice is influenced by the evaluator's stated purposes and involves ethical (e.g. privacy) and educational policies. For example, children may be excluded who could benefit from the experience, while others are included who have no interest or aptitude for the work. Mistakes here can distort results.

The school-teacher's vital role. This is seen in the classroom climate, the way the out-of-school programme is integrated, along with other interactive variables, such as the teacher's personality and attitudes to giftedness.

Treatments can have different effects on individuals and groups. Responses of participants depend on the intellectual and socio-emotional characteristics of both teachers and pupils, which makes it extremely difficult to generalise from single evaluation studies.

Long-term effects Individual participants will be influenced by many factors, including the spirit in which the activity was undertaken. It may, for instance, be part of a healthily balanced childhood, simply as an interesting and beneficial extra-curricular activity. It can also indicate whether the giftedness was precocity, maybe due to 'hothousing', or to more lasting superior attributes.

Differential effects. The enrichment may affect pupils differently at different levels of ability. Such research as has been undertaken suggests that groups of children who have been selected randomly benefit at least as much from enrichment programmes as children selected on the basis of superior intellectual capacity.

Broadening the effects. Out-of-school activities can affect more than those who actually participate. The schools from which the participants come can be influenced systemically. The maximum benefits occur where teachers are familiar with the provision available, are happy to commend it to their pupils and have access to the

resource materials used (Feldhusen, 1991). Where these conditions apply, teachers may be able to use that knowledge to enhance their own differentiation practices still further. Most major centres for gifted education run professional development programmes and other forms of information and support, which raise teacher awareness and contribute to systemic development.

Internal and external evaluation

Although external evaluation is essential, it is incomplete without complementary self-examination - the insider's perspective (Fetterman, 1993). Routine self-appraisal can spot potential problems and successes; both kinds work together. Students, teachers, administrators and parents should be encouraged to conduct informal self-evaluation on a regular basis, comparing what students are doing in relation to the stated goals and objectives. Systems should be developed to give regular feedback to all those involved. The most important techniques in self-evaluation are observation, interviewing and participation.

External evaluation includes both qualitative and quantitative approaches. Qualitative evaluation provides a balance to quantitative methods, and is also more understandable to practitioners and administrators, e.g. on pupils' products. An example is the work of Moon *et al* (1994), which not only incorporated evaluation of an enrichment programme, but also followed the sample for many years afterwards.

5.1.2. External evaluation

An external evaluation framework has four essential stages: design, collection of data, analysis and reporting findings.

External evaluation concerns

- Presentation of the context, such as opportunities for economically disadvantaged and minority children, specially trained teachers and technical assistance
- review of the mechanisms (referral, identification, and selection)
- description of what is to be carried out
- verbatim quotations
- assessment of plans and actual work
- analysis of data, including achievement, attitudes toward the learning processes, self-perception, intrinsic/extrinsic motivation, student activities, behavioural adjustment, teacher ratings of learning, motivation, and creativity and parent involvement
- refinement as the project continues
- analysing underlying factors
- addressing larger socio-political concerns
- communicating findings to maximising their impact.

Results of the evaluation are influenced by the methodology, such as how and why the samples were selected, the instruments (e.g. tests, questionnaires, rating scales), the social and educational context (e.g. high turnover of pupils, poverty), the definition of the reference criterion (e.g., for success) and the theory and goals of the evaluation. From all forms of evaluation, there has to be an openness to the possibility of change, such as whether to build on success, adapt the programme or give up that particular approach. This in turn depends on the professionalism of the evaluators, and the readability of the data presentation. At best, there should also be comparison of the performance of similar students.

6. MATCHING TEACHING TO PUPILS' NEEDS

Educational planning for gifted children is complex because children may have a wide range of abilities or just one specific talent. They may have both high academic potential as well as special areas of skills and talent which call for careful selection of services and strategies. These should be agreed to by all parties concerned. If activities are to be specifically for the gifted then they must be seen to be so. If they look like simply ‘good’ education, then all children would be justified in having a piece of the action. If the answer to either of these questions is "yes," then the provision would be difficult to justify as appropriate solely for gifted students –

Can every child do this?

Should every child do this?

It is very important to achieve collaboration between educators, parents and youngsters. Plans for school personnel and parents should be written down to ensure follow-through and accountability. Within the resources that both parties can bring to bear, neither party should settle for less than the most appropriate experiences to meet the educational needs and to develop the recognisable talent of the child with a high potential.

Extensions of school provision

Schools can encourage a range of activities for gifted and talented pupils outside the school, including:

- Neighbourhood summer schools
- LEA-arranged workshops
- Master-classes and workshops linked to a specialist school or one with excellence in a certain subject area, revision centres or neighbouring schools
- Partnership for effective collaboration to support activities.

6.1.1. Summer-schools

A summer-school for gifted and talented children normally takes place for a minimum of a week, and sometimes several weeks. Course are offered by a school, university, local education authority or a private organisation, in which participants can be either residential or day attendees. Summer-schools vary considerably in cost and types of courses they offer. And because they are rarely evaluated, teachers, parents and youngsters should look carefully before committing themselves. Some have limited places, some offer financial aid, while others do not discriminate by tests or recommendation and may be open to the whole family. There are also out-of-school courses during other school holidays.

At CTY, Baltimore, for example, summer programs are offered in academic subjects, ranging from archaeology to engineering, from geometry to genetics. Visiting some CTY classes in July 2002, I found that most used an innovatory and interesting styles of teaching and new subject matter. For example, a thought-provoking and clearly enjoyable lesson in social anthropology showed videos of interacting primates, after which the students had to interpret them. Others classes were more conventional. Some of this 'above-grade" learning was not dissimilar to what is taught in the best British schools, such as 10 year-olds discussing Shakespeare's Romeo and Juliet, and others acted out their history learning. Overall, the CTY classes provided good teaching with often lavish material provision. The students were notably treated with respect in the, perhaps, two dozen small classes that I saw in action. No child can take a course for which they have not already qualified in measured achievement, although they do not always get their first choice. The combination of dedicated teachers, keen gifted learners and well funded, well planned and executed lessons is undoubtedly a recipe for success.

A review by the National Foundation for Educational Research of British summer schools for gifted and talented pupils (NFER, 2000), included the following points adapted here.

Suggestions for summer schools

Preparation. This should include detailed arrangements for monitoring and evaluating pupils' progress and attainment after taking part in programmes outside school. Parents should be involved as much as possible in this monitoring and evaluation.

Involvement. Pupils, parents and partner organisations should be involved throughout the planning cycle.

Selection. Project coordinators need to influence pupil selection procedures at the host and other institutions.

Participation. Every attempt should be made to ensure the participation of under-represented groups, e.g.: pupils from minority ethnic groups.

Complementing. Out-of-school schemes add value to systems and structures for gifted and talented pupils that are already in place in schools and LEAs. Coordinators should make it clear that the schemes complement normal term-time work. Provision should be significantly different from normal school activity.

Benefiting others. Partnerships created should be maintained to benefit all pupils, regardless of ability.

Mentors. The involvement of adult mentors should be carefully planned before the start of a programme, and summer schools should encourage the use of pupil mentors.

Dissemination. Summer school coordinators should disseminate good practice to host schools, other schools and the LEA.

6.1.2. A school checklist for out-of-school education

Schools can use this checklist of questions to develop and review out-of-school education for gifted and talented pupils.

- How will the activities complement what is already on offer for gifted and talented pupils in the school and the local area?
- How are continuity and progression ensured?
- Which provider groups will be involved in the planning? How will they be involved in the whole process?
- How will any successful partnerships created by the activity be developed for the benefit of all pupils?
- Who is involved in selecting pupils for the activity?
- How are participants to be selected?
- Have the needs of minority groups been properly considered?
- What is the role of pupil and adult mentors in the activity? How will their involvement be planned into the programme?
- How will the activity be monitored and evaluated? Who will do this?
- How will the successes of the activity be communicated in the local area?
- How will the outcomes be built on in the future, so that the experience is not bolt-on or isolated?

6.1.3. Subjective concerns

The provider should try to be aware, as the Americans put it, where they are ‘coming from’. This means making efforts to be aware of personal assumptions and their influences on finding and teaching gifted and talented children.

A subjective list to check

- Personal images built up over the years
- Cultural influences and stereotypes
- Recognising pupils as individuals, rather than high-powered learning units
- The potential effects of special attention, as distinct from special teaching effects
- The relationship between children’s opportunities and outcomes which can affect selection and teaching
- Use of the pupils’ own interests and motivation
- Keep the learning truly demanding rather than allowing coasting at a high level

7. RECOMMENDATIONS FROM THIS STUDY

It is clear from the evidence that excellence does not emerge without appropriate help (Freeman, 1998). To reach an exceptionally high standard in any area, potentially gifted and talented youngsters need the means to learn, which includes material to work with, focused challenging tuition and encouragement. This can be in school, out-of-school or by a combination of different sorts of educational provision.

7.1.1. Recommendations for selection

Broad conception. Programmes for gifted and talented individuals need to be developed around a broad conception of giftedness. Those developed around narrower conceptions, such as IQ or teacher recommendations alone, can be skewed and serve more limited populations. Also, rigid definitions and ability models, as well as limited provision, can restrict the invitation to all potentially high-ability youngsters.

Multiple criteria. Screening needs to include the use of multiple criteria and to reflect the population being targeted for services. Standardised tests should only be a starting point as part of the screening process.

Vocations. Aiming to achieve appropriate vocational guidance and provision should be approached creatively. Sometimes, unconsciously, the early development of a vocational identity can be based on received gender and social class roles, and can inhibit the range of later development and career choice.

7.1.2. Recommendations for provision

Standards. The standard of teaching, in terms of knowledge instruction, intellectual demand and innovative teaching must be extremely high. Further school-type lessons can be disappointing and uninspiring to children who are anticipating and could benefit from something different and more challenging. The aim should be world-class.

Flexibility. From the start, flexibility must be inbuilt. Administration is never the best reason for an educational decision, though understandably it does take precedence at times. Taking gifts to their highest level inevitably demands open-ended thinking and the possibility of changes of direction. That is where the roots of creative insights lie.

Individuality. The young people who attend courses in highly advanced education are special, in that, implicitly, they have a higher potential than other children. Dominance of didactic teaching, the passing on of knowledge, is less suitable for them, although some is essential. Instead, a counselling and guiding style of teaching encourages their ideas, as well as taking the Vigotskian approach of using the individual's own potential (Zone of Proximal Development) rather then present performance, no matter how high that is.

Accessibility. It is not easy to help undiscovered, potentially gifted and talented youngsters to access learning and ideas at a stimulating and high level. However, one possibility is to disband the adult selection process entirely and to allow self-selection by pupils for high-level provision.

Emotion. Youngsters away from home have the same sorts of problems everywhere. All residential programmes are aware of this and make allowances for disturbance, whether home-sickness or hormones. Counsellors who are trained and experienced in such matters are essential. One of the greatest benefits of out-of-school provision, though, is the participant's social life, which organisers remark on everywhere in the world.

7.1.3. Recommendations for following on

Networks. A programme should not come to an abrupt halt for the student at summer's end. Continuing connections are vital to encourage on-going interaction of ideas and the supporting social contacts made during courses, live-in or otherwise.

Evaluation. At the time of setting up any course, it should be organised for research to attest to its effectiveness. At very least, this would include a before and after assessment, and for preference the use of comparison groups to provide some evidence of how valuable the

course was to the participants. Longer-term research (the longer the better) should be a part of the initial economic provision.

British Provision

Unlike many other countries, such as the USA, where the gifted have long been included within the remit of special educational needs, in Britain this term has referred only to those who find learning more difficult. But now, exceptionally high-level potential is being embraced as properly within the domain of mainstream education. At the same time, teacher-perceived negative élitism of special education for the most able has largely passed. The Department for Education and Employment made it clear (DfEE, 1997):

> 'We plan to develop a strategy for the early identification and support of particularly able and talented children that links several strands, including accelerated learning, specialist schools and partnership with independent schools…We want every school and LEA to plan how it will help gifted children.'

There is a fast-growing range of provision for gifted pupils in Britain. At its most inclusive, the Excellence in Cities scheme is designed to raise standards in the inner cities, from which it is hoped many more gifted and talented children will emerge. Although the English Academy for Gifted and Talented Youth has initially been modelled on the CTY Talent Search, important adjustments are being made to accommodate the broader British perception of giftedness. This includes a more flexible approach to selection, including complementary localised, open-access provision.

Of course, out-of-school learning is well established in Britain for pupils at all ability levels. Study Support Centres, for example, have had an excellent record in raising the attainment of young people at risk of under-achievement. It could be a relatively small and consistent step to fill the gap between the Academy and Study Support Centres by giving encouragement to the development of local, open-access out-of-school learning provision.

There is still a need to come to national terms with divergent views of who is gifted and how to help them, by extracting what seems to be the best for British culture. In spite of the government

decision to identify the top 5-10% in all schools, we know that there is dissent among teachers, who are, after all, being asked to implement such decisions. Indeed, many countries are beginning to learn from one another, the most obvious example being China, which uses schemes within its own culture outlook while adapting and incorporating others from around the world.

Early evaluation of the impact of the gifted and talented strand within Excellence in Cities scheme suggests that teachers perceive the benefits to be both individual (pupils appreciate the courses) and systemic (Stoney *et al*, 2002). The systemic benefits include better development of extension activities, adjustments to teaching and learning strategies, improved take-up of some subjects, the sharing of expertise with other schools, and better overall performance for the upper ability bands. However, in December 2001 Ofsted reported on the scheme: "Most schools visited in this survey have not yet developed effective systems to monitor the additional improvement the programmes are intended to promote." (Ofsted, 2001, p. 43) Without this basic monitoring and evaluation, it is hard to judge the outcomes.

In the end, it would be extraordinary if interesting educational extras did not benefit keen bright participants, at least in the short- term, though the unanswered questions still concern the longer-term and systemic benefits. This is why evaluation has to be both short- and long-term. Short-term goals might be to see whether interest and ideas have been stimulated, even a trial course which redirects a student's interest elsewhere can be of great value. To find out how effective programmes are they need enough time to bite. The evaluation must be long enough to see whether stated goals are being at least partly achieved and whether the youngsters' performance is extended. It is strongly recommended that organised monitoring and evaluation be part of the initial action of the English Academy.

It is intended that all the information in this report could be of use in the functioning of the English Academy, although this is not always specifically pointed out.

Open-access approaches which could be complementary to the English Academy

The Chinese Children's Palace model

The National Endowment for Science Technology and the Arts (NESTA) has investigated the Children's Palace model and has judged it to be valuable for use in Britain. It is initiating a pilot scheme for two centres (Coles, 2002).

Children's Palaces would be:

- complementary – building on existing provision for nurturing gifts and talents, including school provision
- inclusive – giving opportunities to children who might not otherwise access out-of-school learning provision
- high quality – with excellent facilities and innovative and inspiring teaching
- eclectic – offering different types of activities in a range of subject areas
- strategic – located within a national framework of networking and advocacy and embedded in the local community, thus ensuring sustainability.

Freeman's Sports Approach model

Given the opportunity, and with some guidance, Freeman (1998) suggests that the talented and motivated should be able to select themselves to work at any subject at a more advanced level. In the same way as youngsters who are talented and motivated can select themselves for extra tuition and practice in sports – both in and out-of-school hours - other gifted and talented youngsters should be able to opt for, e.g. extra foreign languages or physics after school. This is not an expensive route because it uses what is already available. Importantly, it is based on scientifically researched evidence of the promotion of excellence, notably the benefit of focusing on a defined area of pupil interest, as well as providing learning facilities. The principle lies in allowing wide access to high-level education, but it is not a free-for-all.

Guidelines for the Sports Approach:

- Indicators should be validated through a process approach for each stage of action
- 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) to encourage pupils
- Pupils must be involved in their own educational decision making
- Identification of excellence should be by multiple criteria, including provision for learning and outcome

8. THE OUTLOOK

A worthwhile goal in the provision of out-of-school education for the gifted and talented would be the establishment of a network of models and centres of excellence around the world. The current outlook of many countries is already set for cooperation, and though progress is slow it is positive. The major competitions, such as the Mathematics Olympiads, are international, and some private institutions, such as CTY, are starting associated schemes (Ireland, Spain, Bermuda, England), though these are still in their infancy.

This report does not include every activity for the gifted in the world – which would occupy several volumes. Rather, it aims to synthesise the major and more interesting schemes. And of course, new ideas emerge constantly as individuals experiment with different forms of education for high-level potential.

Without a policy for high-level provision at an administrative level, there will inevitably be a lack of consistency. The value of out-of-school education is diminished when it is independent of the child's schooling. What is more, children need to have good learning year every year, and all through the year. Even for the gifted and talented, a piecemeal top-up from time to time is less likely to be effective than continuing tuition, mentoring etc. Hence, whatever the out-of-school activity, it should be followed-up where possible within the pupil's normal life.

Almost all the major institutions contacted for this overview of out-of-school education for the gifted and talented have expressed their willingness to be in contact with the English Academy. Not only does this include the American Talent Searches, but particular enthusiasm has been expressed by the German School Academies and the Dept. for Gifted Children, Ministry of Education and Culture, Israel. Interaction and cooperation with any of the organisations mentioned could be expected to be of mutual advantage.

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