Worldwide provision to develop gifts and talents

An international survey

Research report

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CfBT Education Trust

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TOWER EDUCATION GROUP

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The Tower Education Group is a think-tank of senior British professionals with a wealth of experience and research on the development of gifts and talents. Collaboration and practice are at the Group's heart through considerable international contacts, especially with contributing associations. Its aim is to produce research information and ideas which are useful and exchangeable across nations.

The Tower Education Group believes that personalised education for the gifted and talented is valuable:

1. for learners, to realise their high potential
2. for the national economy, as a force for economic prosperity
3. for schools, as a driver for general improvement
4. as a force for increasing opportunity for all.

Contents

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'Although, in the end, the seeds of excellence must lie in individuals themselves, we cannot afford to be complacent. Society has a vital duty to provide the framework, the teaching and support, and even the incentive, to enable people to develop themselves and their abilities to their fullest possible potential. It is a criterion by which I would judge any government or political system.'

Lord Coe, opening address, European Council for High Ability, Zurich, 1989.
Olympic gold medal winner for middle-distance running, and multiple record breaker.
Vice-president of the International Association of Athletics Federations, and Chair of the London Organising Committee for the Olympic Games 2012.

This publication is intended for all practitioners in education.

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Executive summary

The responses of international practitioners have highlighted some recurrent debates in the field, notably:

- cultural values underpinning programmes
- acceleration and enrichment
- integration versus separation of provision
- constraints faced by educators and practical solutions
- links between identification, provision and success.

Major trends from the survey

1. There is steady movement –

   away from gifted education designed in terms of:
   - giftedness as predominantly inherited and fixed
   - a small percentage of measurable high achievers
   - domination of acceleration and/or withdrawal for special provision,

   towards seeing giftedness as:
   - mainly developed through opportunity allied with application and effort
   - potential among many, acknowledging peaks of gifts at different stages of students' school careers
   - focusing on a wide range of abilities extending beyond the academic – including help for the disadvantaged gifted to overcome their difficulties
   - possibly requiring support for special social and emotional needs
   - encouraged by enrichment and differentiation within the normal classroom
   - a feature of normal children, who are in all other ways like their classmates.

2. Collaboration between gifted education providers is increasingly recognised and taken up, whether locally, nationally or internationally.

3. There is a growth of a more democratic approach that is empowering to teachers, parents and students.

4. Providers are becoming more sophisticated in choosing and applying models and recommendations in gifted education to suit their local conditions.

1. Current international perspectives

Different approaches inevitably make a difference as to which children are given the essential opportunities to develop excellence in any area.

Modern purposeful education to promote gifts and talents takes two broad yet distinct cultural views. Although one view sees the gifted as only a tiny proportion of the population, the other sees them in much greater numbers in terms of high-level potential. There is constant political struggle in most of the world between such elitism and egalitarianism, but general agreement that educational provision is not only inconsistent but also a geographical lottery (Wallace & Eriksson, 2006).

Different approaches inevitably make a difference as to which children are given the essential opportunities to develop excellence in any area. A major division is due to the relative importance given to genetics and environment (Plomin *et al*, 2008).

The genetic view – selects relatively few children for special provision
Genetic influences are generally accepted as dominant in Western culture. Accordingly, children are assessed to discover their position on a spectrum of abilities compared with others of their age; only a tiny percentage being selected as gifted for what Freeman (2002) calls 'diagnose and treat'.

Consequently, the vast majority of children are designated incapable of high-level achievement. For a few of those selected, it brings a risk of 'hothousing', being pushed to perform at a higher level than natural, producing advancement which may not last, and possible consequent emotional problems.

The environmental view – aims to educate all children to a very high standard
Every baby is seen as born with similar potential; the main differences in each child's achievements being their rates of development – which to a large extent is within the power of each individual to fulfil through hard work.

This view assumes a uniformly high level of teacher expertise and commitment. Such a broad egalitarian approach works well in small and highly developed countries such as in Scandinavia, notably Finland – the highest scorer in many international comparisons.

In practice, though, most countries and cultures use a variety of overlapping approaches and methods to promote the highest levels of achievement in their children. Even though the Western (largely American) view is becoming internationally dominant, there is also wide acceptance of its interaction with enviromental influences in the development of excellence.

Selecting the gifted and talented

Local cultures affect identification and provision (Freeman, 2005; Wallace & Eriksson, 2006). Some examples:

- Israel has a government division for Gifted Education, which provides gifted education for Jewish and Arab children.
- Saudi Arabia has 22 Summer Programmes for 960 gifted boys and girls.
- The Pinnacle Project in Washington selects highly gifted youngsters to interact for a residential week with Nobel prize winners.
- The Inanc Foundation in Turkey takes very poor children from all over the country for boarding high-level education.

Everywhere in the world, similar barriers to the development of gifted potential can be seen…

- The free Africa Kamuzu Leadership Academy in Malawi models its curriculum on English private education.
- The Embraer High School in Brazil takes only very poor children and offers them an engineering speciality.
- The language schools of Russia teach all subjects to selected bright students in a foreign language.
- India has more than 500 (and growing) Jawahar Navodaya Vidyalaya (JNV) schools for bright boys and girls from poor rural districts.
- New Zealand has Day-a-Week schools and resources centres around the country.
- The Children's Palaces across China provide non-selective, high-level, out-of-school education for youngsters who are prepared to put in the effort to stay the course.

There are perhaps 100 definitions of gifts and talents, almost all of which refer to children's precocity, usually in terms of high marks in school. Teachers also have their personal images of what a gifted child will be like, which they look for. Most analyses of representation within identified gifted and talented populations show serious imbalances when looked at in terms of gender, ethnicity and socio-economic backgrounds (Winner, 1996).

The criteria for choosing children as gifted and talented depend on the aim, whether it is high marks in school, innovation, solving paper-and-pencil puzzles for an IQ club such as Mensa, competitive athletics or gaining entry to a summer programme. Scholarly children will be different from athletes, and the creatively gifted are often more difficult to identify and accommodate.

Definitions depend not only on what is culturally approved, but also on capacity to help the children within the education system (Banks, & McGee Banks, 2010; Balchin *et al*, 2009). Personal selection by teachers and parents is likely to involve some personal feelings, so that their choices will be different from objective test measurement. Teachers' own attitudes towards the gifted vary greatly; some refuse to identify any, while others overestimate a youngster who is good at, say, maths for their all-round abilities.

Even within one country, such as the USA, percentages of the child population identified as gifted by teachers vary between 5% and 10% across the states (OERI, 1993). But teachers are reliable, in that they will continue to pick the same kind of children. Parental choice is beset by cultural stereotypes (Laungani, 2007), often meaning that two boys are chosen for every girl: a strangely stable gender proportion all over the world.

Social-emotional effects on the development of gifts and talents

Everywhere in the world, similar barriers to the development of gifted potential can be seen – the type of ability approved of, what is considered suitable for each gender or status in society. Cultural obstructions can put a stop to the first tentative steps on the road to excellence and damage children's hopes and courage to aim for high-level goals. Dweck (2006) has pointed out how an open mindset in an individual enables potential to develop.

Labelling a child as gifted often reflects local stereotypes and consequent expectations, whether of difficult behaviour or advanced maturity. These can become self-fulfilling because children often try to oblige, thus setting up a poor emotional base on which to build a happy life. But

labelling can also have positive effects on self-esteem. Research evidence shows the gifted to be at least as well balanced as any others (Freeman, 2010; Martin *et al*, 2010; Richards *et al*, 2003; Neihart *et al*, 2002).

Around the world, widely varying check-lists of 'characteristics' of gifted and talented children are presented to teachers. Many of these are concerned with children's behaviour, and expected emotional problems. Fortunately, intuitive, inspiring teachers can spot and nurture talent which such lists miss. Teachers are not always keen to identify young children, though, because of concerns about premature labelling issues. Yet educational help in early childhood is likely to have a much stronger effect than later, especially for the disadvantaged (Koshy, 2009; Siraj-Blatchford & Woodhead, 2009; Sylva *et al*, 2004).

The educational effects of concepts of gifts and talents

There are a number of influential theories and models. These below are considered dominant in affecting international classroom practice.

Spearman, in England, conceived of general intelligence (G) at the top of a mental hierarchy, with more specific abilities of different strengths, such as verbal and mathematical, lower down (Spearman, 1904). This has remained outstandingly the most practised concept of giftedness in the world, meaning that children are chosen as gifted if their 'G' or Intelligence Quotient (IQ) is above a designated cut-off point.

Vygotsky, in Russia, promoted the child as an active agent in learning (Vygotsky, 1978). The teacher's job, he said, is to tap into unused potential, the 'Zone of Proximal Development'. His view was much more concerned than the single IQ measurement to develop potential. His techniques are mostly employed across Eastern Europe, though elsewhere too.

Gardner, in the USA, further developed the lower ranking abilities of 'G' into a theory of Multiple Intelligences (Gardner, 1983). He suggested that teachers select for gifts and talents within a specific range of between seven and 13½ 'intelligences'. Although the evidence is contentious, the concept has been popular.

Renzulli, in the USA, suggests looking for above-average behaviour along with task commitment and creativity (Renzulli & Reis, 2000). Certain traits must come together, including courage, charisma, sense of destiny and optimism – as well as above-average intelligence. He encourages flexibility in each school to develop its unique way, based on local circumstances, and aims to increase creativity.

Sternberg, in the USA, has a theory he calls Successful Intelligence (Sternberg & Grigorenko, 2007). The successful person, he says, needs three kinds of abilities, a kind of expertise, to reach success. Using musicians as an example, they need analytical abilities (to read a sheet of music), creative abilities (to make something special of it) and practical abilities (to perform to please their audiences).

Gagné, in Canada, encourages teachers away from the idea that giftedness is static (Gagné, 1999). His model presents aptitude and ability as developmental and evolving into performance. Gagné terms 'gifts' as the child's natural abilities, as distinct from what he calls 'talents', which he sees as systematically developed from the gifts.

Evidence in practice

Unfortunately, using scientific evidence as a basis for any educational policy or action is not customary in any part of the world. Nor, for that matter, is research evidence usually explicit about the context of where it was done or how it might be transferred elsewhere. But all the theories above are put into practice with greater or less success in different parts of the world.

There has never, to our knowledge, been a direct comparison made of specific programmes for the gifted, either cross-culturally or even within one country (Freeman, 1998). Research on gifted education is also widely varied in quality. Typically, it is concerned with small samples of children who are not compared with matched others. Although generalisations from apparently successful educational schemes are common, it is hard to know whether they might be transposed elsewhere. For example, an American-style summer camp for the gifted in England (2002–2007) was not considered successful enough to merit further funding (Teacher Training Resource Bank, 2010).

Yet, in whatever manner the gifted are selected, the outcome is most likely to be positive. It is not surprising that bright, keen children will learn more with extra educational help than those who have not had that opportunity and experience. So if children appear to do well from a gifted programme, we do not yet know whether it is due to the extra attention, to only parts of the scheme, or whether the effects will last.

Recent international discoveries by James Flynn of New Zealand (2007), called the 'Flynn Effect', have demonstrated a rapidly increasing change in the way the gifted think and learn. He showed a significant rise in measured intelligence – but only in advanced countries – probably due to more intellectually demanding work, greater use of information technology and smaller families.

Students proficient in IT, he found, are now progressively more competent at manipulating abstract concepts such as hypotheses, analogies and categories. It is not so much that their basic natural intelligence is going up; the big changes are in the way it is developing and being used.

Flynn's discoveries are supported by others, notably Geake (2009). They indicate the need for a serious change of educational direction for the brightest students. The outcome, perhaps aiming to develop acumen and deep thinking rather than dates in history – skills rather than content – could also bring big changes in the world beyond school. Countries which are alert to this new mode of gifted intelligence are advantaged over those who have yet to recognise it.

We do know, though, that research on the effects of practice, notably of more than 10,000 hours, will produce expertise (Ericsson, 1996). But whether that practised expertise is the same as talent in terms of inspiration, creativity and world acclaim is questionable. Could any child really be a Mozart?

2. How the survey data was collected

… it is important to recognise that there is not always a common understanding of concepts.

The online survey was designed to explore current practice and the extent to which it reflects the broad trends and issues outlined above.

The online questionnaire

An online questionnaire was designed to reflect the review outlined above. Data was collected using a procedure with both closed pre-programmed questions (e.g. size of programme; ages served, etc) and open responses (e.g. funding level, success indicators).

The survey included questions on:

- policy, funding and contextual issues
- attitudes and definitions of key concepts
- identification measures
- approaches to provision
- values and ideas informing provision
- success indicators and evaluation methods.

It was piloted, revised and circulated, in English, to over 850 international professional contacts from national to local levels. The online questionnaire received nearly 900 visits, yielding a creditable response of over 250 usable complete or partially complete responses. Non-English-speaking participants faced reading and responding in a foreign language, as well as explaining their local educational systems and terminology and this will also affect the overall reliability of results.

The personal interviews

The electronic responses were coordinated with face-to-face questioning of representatives at the conference of the World Council for Gifted and Talented Children, Vancouver, August 2009. The personal interviews were centred around four themes:

1. The context of the provision – defining success, what works well, focus on improvement, nature of provision
2. Underlying concepts, values and success criteria – characteristics of students, finding potential, reasons for failure, personal networks
3. The elements of provision – in the classroom, workshop, college, and beyond
4. Evidence used for evaluations of impact – maximising opportunities, role models.

Limitations of the survey

Of course, the sample is composed only of those people who chose to answer the questions. Some parts of the world are under-represented or missing, but the writers decided not to supplement the survey with information from elsewhere in the literature or available from other contacts.

In addition to the linguistic issues identified above, it is important to recognise that there is not always a common understanding of concepts. Ideas are so varied around the world that one set of

people may not recognise what another sees as obvious. In some areas, for example, giftedness is seen predominantly as the ability to memorise, whereas in others the predominant focus is the ability to question. The researchers had to tread carefully around these problems and to be wary of misunderstandings.

We have not included in this survey the voices of gifted youngsters themselves. Nor does the survey claim to be all-encompassing, but it does provide a 'snapshot' of current practice in the international provision of gifted and talented education among educators.

3. What the survey found

Three quarters of respondents said their programmes or provision used the term 'gifted', while two thirds used the term 'talented'.

Who answered the survey

Regions represented

The majority of the respondents (65%) were from Western cultures (Western Europe, North America and Australasia). Eastern Europe, including the Baltic States, only accounted for 10%, although there is considerable activity for the gifted there. The Middle East and South America each provided 7% of the responses, trailed by the Far East (4%) and Africa (2%). Further qualitative research through follow-up interviews is presented in this report.

Roles of respondents

The survey drew responses from the range of stakeholders involved in gifted education, from academics (28%), school-based practitioners (27%), administrators (15%), policy makers (10%), gifted education charities or interest groups (10%), consultants, parents and others (10%). Many respondents indicated that they play a variety of roles in relation to the programme on which they were reporting, which reflects the fact that those involved in delivery of gifted programmes do so from a variety of perspectives. Although it may appear that academics make up a high proportion of the sample, it should be noted that many were also involved in delivery of gifted programmes.

Selection and provision

Terminology

Three quarters of respondents said their programmes or provision used the term 'gifted', while two thirds used the term 'talented'. Given the overlap, many combined the terms as 'gifted and talented'. Some other examples were 'more able' (Wales), 'intellectually precocious' (France), 'high intellectual abilities' (Spain), 'outstanding potential abilities' (Hungary), and 'special prerequisites' (Denmark). The term chosen – or more particularly the model underpinning the terminology – appeared to influence the approach to identification.

Level, type or sector

Respondents were asked to specify the administrative level of the programmes or provision they were reporting on, whether national, regional, local or school level. Nearly 40% of programmes operate within a country's official education system, whether at national, regional or local level.

The remainder was a mix of school-based and out-of-school provision, individual practice such as that of educational psychologists or of consultants and teacher training programmes. 12% were specific curricular or pedagogical approaches, and 7% of programmes were affiliated with or originated from universities. 7% of programmes were open to participants from more than one country.

The majority of programmes were government-funded (60%), with just over 20% being privately financed. 10% of programmes received 'partnership' funding from both governmental and non-governmental sources, and a further 5% described themselves as non-governmental organisations.

Identification

Most respondents reported a combination of identification methods. In fact, two thirds used four or more, while more than half used six or more. Since some reported multi-stranded national

Teacher judgement was the most common route for identification, reported in 80% of all programmes, whether as the sole or as a combined procedure.

or regional programmes, it is unlikely that the entire range of measures would be available to or relevant for all local students. See Figure 1 below.

Teacher judgement was the most common route for identification, reported in 80% of all programmes, whether as the sole or as a combined procedure. Normed tests, whether nationally normed or not, such as for general intelligence (55%), were also used frequently, alone or in combination. Somewhat fewer respondents reported having devised their own bespoke assessment procedures, often using multiple sources of evidence.

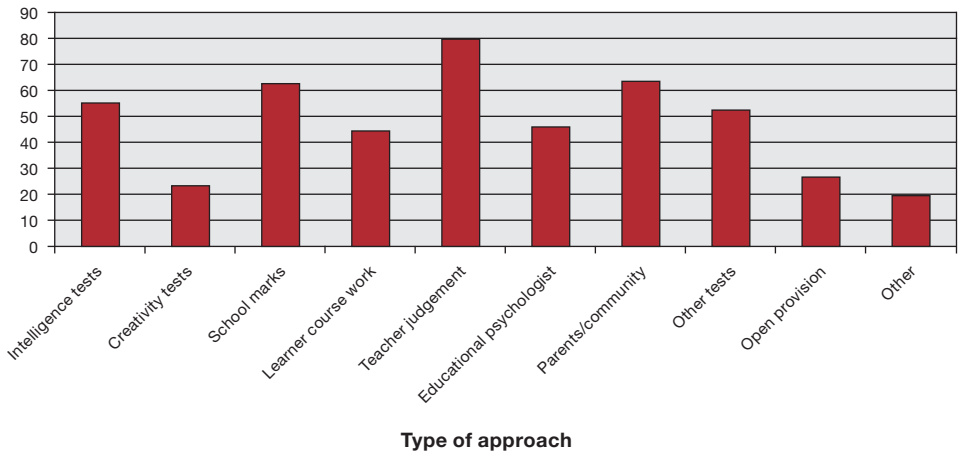
The importance given to marks in school (63%) indicates that giftedness in this sample was most frequently perceived in terms of high measurable achievement rather than high potential. The problem is that focusing on achievement inevitably leads to losing potentially gifted underachievers of all kinds, including the disadvantaged and the twice exceptional. See Box 1 below and Box 2 on page 13.

Values underlying provision for the gifted and talented

The main values guiding responding practitioners in what and how they provided for gifted education are listed here in order of their popularity. See Figure 2 on page 14.

This picture may surprise those who believe that gifted education is all about identifying and developing an elite. There was strong evidence here that, in the balance between excellence and

Figure 1: Approaches to identifying gifted learners



Box 1: Israel

Israel identifies the top 10% with a combination of cognitive tests and teachers' 'gut feelings'. The top 0.5% is seen as different and termed 'supergifted' or 'geniuses'. 15 professors are researching better methods of identification at these very top levels. A new screening tool is being piloted and expected to be in action in 2011.

Box 2: Brazil

Cedet, Brazil, provides an illustration of the way in which gifted programmes can be built around a positive, holistic approach.

Identification methodology is based on a guided direct observation:

1. Classroom teacher as part of whole class reporting
2. Assisted observation by CEDET
3. Classroom teacher observation, in the following school year.

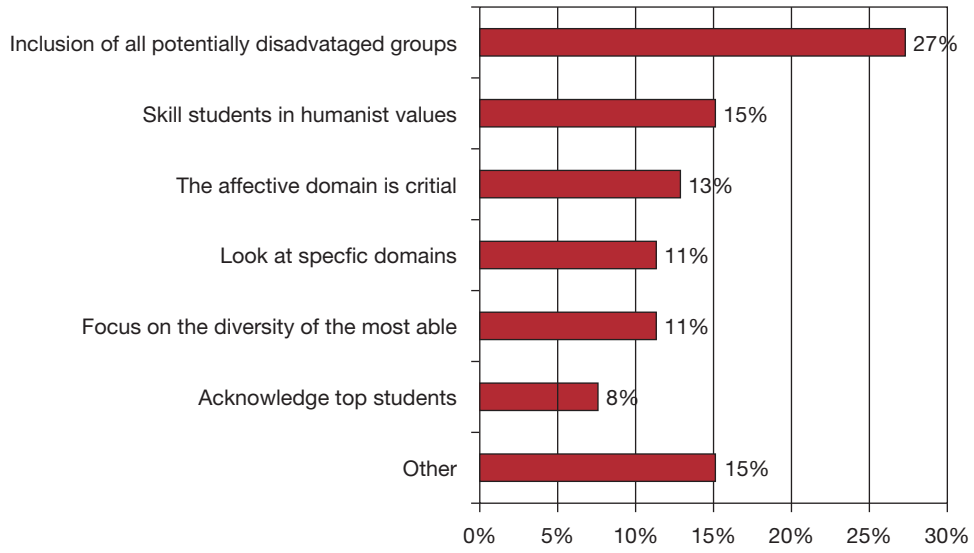
When at least two of these three independent observers find signs of giftedness the child is identified as gifted in one or more of the ability domain areas:

1. **Intelligence and general ability**
   (a) Mental liveliness – curiosity; interrogating and probing; facing and enjoying challenge; sense of humour; good memory; ample background of knowledge and information; ability to quickly learn, grasp, comprehend through various channels;
   (b) Self motivation and confidence – independence; persistence; 'has their own mind'; task commitment; internal motivation and drive; acceptance of risk and risk taking; responsibility; self confidence; self assurance; initiative; participation.
2. **High ability expressed through academic performance**
   (a) Verbal ability – associated with the area of languages and verbal communication – (mastery of verbal communication and the use of language; precision and concision in verbal expression; academic advancement in spoken and written language; enjoyment and efficiency in dealing with words);
   (b) Abstract thinking – associated with the areas of sciences and mathematics (high ability to analyse, associate, and relate symbols, events and ideas; internal organisation; logical thinking; ability to establish relationships to identify causes; ability to build abstract constructs from facts; concentration and depth of thought).
3. **Creativity**
   Associated with artistic or scientific production and thought processes exhibiting traits such as: holistic thinking; intuition and intuitive thinking; originality; 'different'; 'not pattern fitting'; critical; self-critical; perceptiveness.
4. **Social-affective ability**
   Traits and signs associated with leadership and human relationships ability, such as co-operation; sense of justice; respect for others; listening to others and considering their ideas; sensibility to others people's needs; kindness; friendship; sense of group; tuned in to the group.
5. **Psycho-motor ability**
   Psycho-motor ability expressed as sensorial-motor prowess; athletic ability; superior physical motor performance.

equity in gifted education policy, concern for equity was significantly strong, and increasingly more so than it has been in the past. See Box 3 on page 14.

Policy and practice for the gifted appear to be reflecting wider educational priorities in an effort to integrate successfully. There was broad acceptance that gifted education has a more significant role

Figure 2: Main values underpinning your programme



Box 3: China

Hong Kong Education Bureau runs a highly ambitious programme that aims to reach 100% of the region's learners in a genuinely inclusive way with a wide remit for accommodating learner diversity through three distinct levels of engagement. Resolutely not tied to any one approach, it has utilised an adapt-and-adopt approach as appropriate to the context of the child in order to ensure fully personalised teaching and learning approaches.

The Bureau uses wide consultative structures and strategies with open and responsive communication to engage with the full range of stakeholders from the government to academics and to the child and their parents. The primary strategy is the use of pilot programmes to trial approaches and strategies which if successful are then incorporated into online modules for further trialling to create transferability.

in society than for a narrowly identified grouping (see Boxes 4 and 5 on page 15). Respondents were clear on the following:

- Every student has the right to access challenge in their learning, through programmes which explicitly aim to overcome disadvantage.
- The students are future leaders who need to develop a sense of ethics, humanist values and democracy.
- It is important to focus on developing the whole child, boosting self-esteem.
- It is valuable to develop expertise in specific domains, as well as independent learning and divergent thinking.
- Students' diverse needs should be recognised and a personalised learning programme offered.

… we are interested in motivating and challenging a student that does not always find in their regular educational context the possibility of strengthening their cognitive abilities or maintaining their motivation towards learning.

Box 4: New Zealand

New Zealand's policy of the Office of the Minister of Education recognises that the valuing and nurturing of specific gifts and talents is culturally relative.

'Giftedness and talent can mean different things to different communities and cultures in New Zealand, and there is a range of appropriate approaches towards meeting the needs of all such students.'

Box 5: Chile

Chile, through the BETA Programme of the Catholic University of Valparaíso, offers high quality opportunities for the whole development of academically talented students focusing on the areas of Human, Social, Basic and Economic Sciences. The aim is to strengthen the instrumental skills that are indispensable for the development of these students in the 21st century, and to promote their cognitive, reflective and research skills.

The programme seeks to contribute to the creation of learning and development opportunities for academically talented students who come from vulnerable socio-economic sectors:

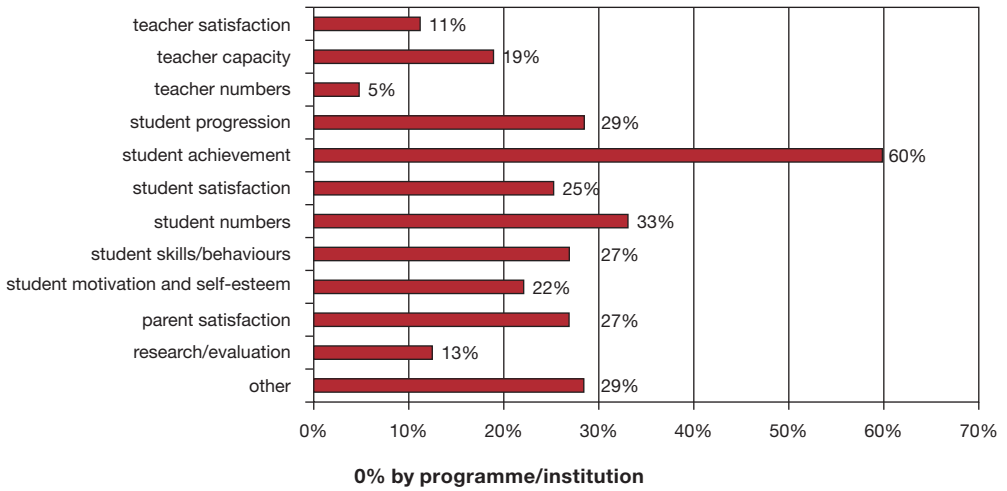
'… we are interested in motivating and challenging a student that does not always find in their regular educational context the possibility of strengthening their cognitive abilities or maintaining their motivation towards learning.'

'In supporting children and adolescents with academic talent, BETA makes a contribution to the development of their cultural capital as well as that of their families and schools. This is relevant to promote our country's human resources and thwart the obstacles generated by the lack of opportunities that these children have.'

Success criteria

The survey asked respondents to identify up to five success criteria for their programmes. See Figure 3 below.

Figure 3: Success criteria



Sometimes, as much as teachers and administrators would have liked to make explicit provision for the gifted, they were constrained by matters outside their control, most of which are familiar around the world.

This research has shown that of all the criteria for judging the success of educational endeavours for the gifted, 'research/evaluation' was the least used (13%). As in other instances, educators often turned to 'student achievement' (60%) to measure the success of their provision. Nevertheless, most described their aim as being to encourage learners to think beyond the traditional bounds of the curriculum in a wide variety of ways, such as differentiated activities, real-life problem solving, challenging open-ended tasks, higher order skills, good quality questioning, and interest-led enquiries. Educators expressed their keenness to develop a love of learning in their students – how to learn – not what to learn. See Box 6 and Box 7 below.

Box 6: Israel

Israel's Ministry for Gifted Education translated and adapted Renzulli's model. They say that 95% of his goals have been completed.

'We started with 50 schools which have grown to 156, with great success. There are also 53 enrichment centres round the country sited in regular schools. Using cognitive tests, each centre takes 15% to Renzulli's second stage, then the top 3% of those go further using Renzulli's guidelines. The participating schools run special workshops aiming for higher order thinking skills. There is a waiting list to join this government scheme. We also make use of teachers' personal interests which may not be on the school curriculum, and use former teachers to supervise.'

Box 7: Hungary

Csanyi Foundation, Budapest, Hungary in its talent development programme, aims to support gifted, socially disadvantaged children through each milestone of their lives, assisting them to overcome socio-economic obstacles and to develop their innate talents. Beginning at age 10 it can entail an 11–14 year period and it is free to participants. The forms of support each child receives are uniquely tailored and last until, as a young adult, the programme participants enter the labour force.

'We promote child-centred, individualised education plans, nurturing talent, creativity, and learning. We aim to continuously focus on students' strengths and weaknesses, take into account each stage of growth and support the developing personality. We aim to work in close collaboration with children's families and schools. Mutual trust and partnership with these two key players is of crucial importance to our talent development programme. Our goal is to present the children with opportunities and to empower them to widen their scope of knowledge. Simultaneously, equal emphasis is placed on encouraging the children to develop the inner qualities of perseverance and motivation.'

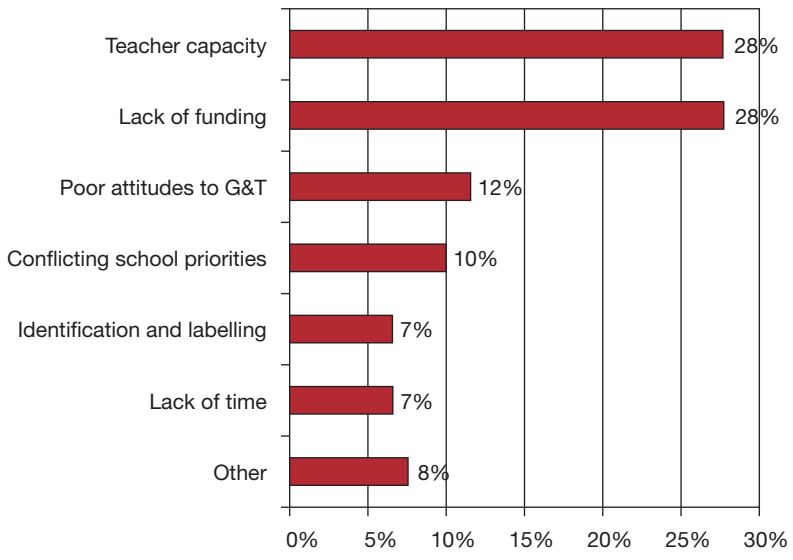
Constraints on effective provision

Sometimes, as much as teachers and administrators would have liked to make explicit provision for the gifted, they were constrained by matters outside their control, most of which are familiar around the world. See Figure 4 on page 17.

The relatively narrow range of responses showed plainly that gifted education programmes throughout the world face broadly similar challenges. Notably, the fact that limited teacher capacity (28%) is seen to be as significant as lack of funding indicates how vital both the role and training of teachers are to any sustainable development of provision. Many of these issues are also seen to be interrelated, notably the poor attitudes to gifted education from both parents and senior leaders which may have a detrimental effect on the priority given to it within schools.

A long-standing debate has surrounded the issue of the degree of integration of gifted programmes.

Figure 4: Constraints to effective provision



Types of provision offered

A long-standing debate has surrounded the issue of the degree of integration of gifted programmes. This ranges from (i) their full inclusion in mainstream schooling, through (ii) mainstream schooling with 'pull-out' programmes and within-class differentiated provision, whether during school hours or afterwards off-site, to (iii) special schools, residential or not. See Box 8 below and Figure 5 on page 18.

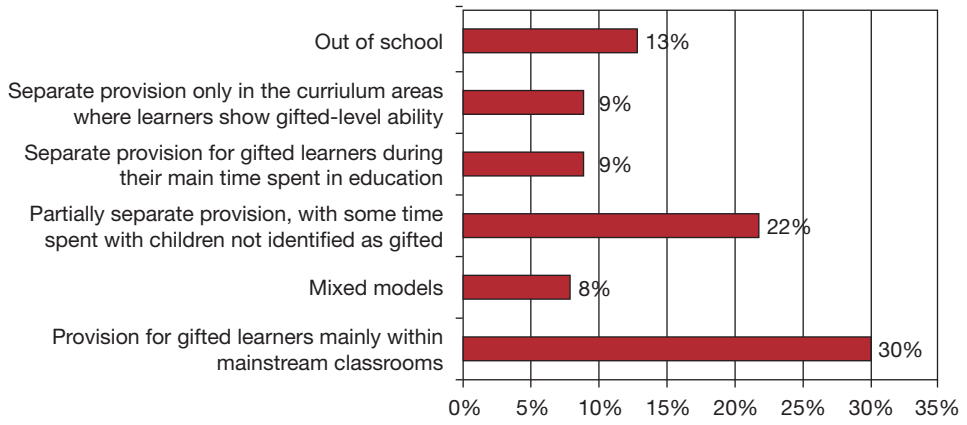
Box 8: The Gulf States

The pattern of development of gifted education in the Gulf provides an illustration of many of the debates in the field. There is significant interest in gifted education, primarily as a vehicle to drive economic prosperity within the region. Access, quality and standards in education are improving rapidly, but the approach gifted educators have taken has been piecemeal.

In Saudi Arabia, the Mawhiba Schools Partnership is an initiative designed to support schools to become more effective in creating a structure and a curriculum that enables students with giftedness and creativity to perform highly. A wholesale approach, it has involved commissioning of external experts delivering a model that is strongly based on international, Western practice. A supplementary curriculum, together with diagnostic tests, new qualifications and assessments is under development, supported by professional development for teachers. The aim is to create an outstanding, inspirational, contemporary and challenging curriculum in the Kingdom of Saudi Arabia. The emphasis is on integrated provision and a system-wide approach.

A number of examples of practice building on Renzulli's school-wide enrichment model have been developed, for example in Jordan. Along similar lines, the Bahraini Centre for the Gifted (BCGT), established in 2006 and affiliated with the Ministry of Education, has adopted both the three rings conception of giftedness and the multiple criteria identification process.

Figure 5: The degree of integration of provision



By far the most frequent provision around the world was carried out in mainstream classrooms (30%). One in five of the programmes are residential (21%), which might indicate a high proportion of dedicated gifted educators. Most students (77%), though, were not removed from home for their gifted education. See Box 9 below.

Box 9: Australia

The South Australia S.H.I.P. (Students of High Intellectual Potential) Programme (Adelaide) presents a clear example of partially separate provision where acceleration supplements the mainstream, programmes being offered by subject, by year group and/or through early entry to examinations through:

- *curriculum compacting* – following a pre-test, the curriculum is reduced to only those skills or content areas that the student has not already mastered, allowing students time to participate in acceleration or enrichment activities
- *product* – flexibility over how work is presented; focus on addressing a real problem or concern and presenting to a 'real' audience
- *learning environment* – student-centred rather than teacher-centred; encouraging independence; open rather than closed; accepting rather than judgmental; abstract and complex rather than simple and concrete
- *students negotiating their learning* with individual contracts.

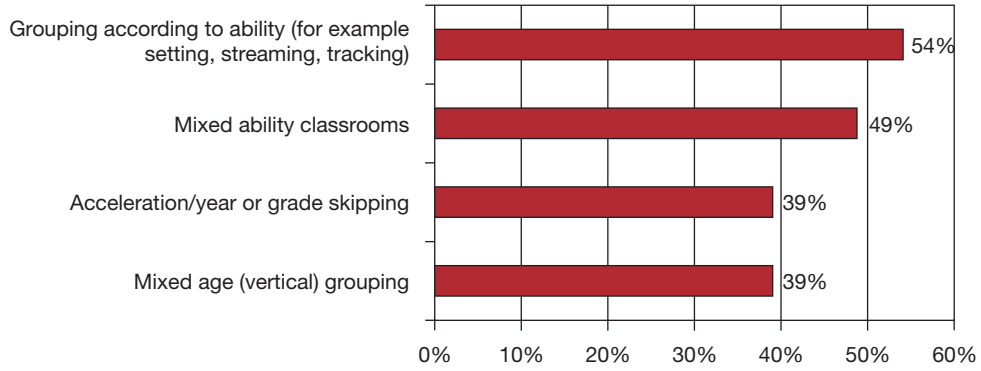
Grouping

Ability grouping covers a range of different sorting of students, including streaming (for all or most subjects), setting (for just one subject) and separate provision. Respondents reported a variety of models, based on children being in normal class for most of the time but undertaking alternative or additional activities for part of the week, but four modes predominate (see Figure 6 on page 19).

The gifted were taught in selected groups about equally to those in mixed-ability classrooms. We suspect that mixed-age grouping usually takes place outside the classroom, probably outside the curriculum as part of a mixed-mode approach for special interests.

The survey strongly suggested that the old argument of acceleration vs. enrichment is simplistic and dated.

Figure 6: Grouping approaches



Modes of provision

There is no one-size-fits-all view of provision; the average number of modes of provision was 5.5, showing great diversity not just between but within gifted programmes. Respondents used whatever theory seemed suitable – 'too many to name', while the choice of method 'varied by course'. The vast majority are delivering their work in response to local needs and capacity. Although teacher-directed activity accounted for 71%, almost the same proportion of respondents (68%) regarded gifted education as 'a route to greater choice, independence and control by students'.

Enrichment

At 89%, enrichment is the most universal method of provision for gifted learners. Enrichment enables the learner to experience greater breadth in learning, going beyond what is in the standard curriculum. The survey did not separately deploy the term 'extension' to denote learning in greater depth.

65% of practitioners regard differentiation as key to success, reflecting the challenge of managing classroom learning for the more able. Classroom balance between pace, breadth and depth can be a critical issue in challenging and supporting the more able.

The survey strongly suggested that the old argument of acceleration vs. enrichment is simplistic and dated. Acceleration and enrichment/extension are not mutually exclusive, such that either is inevitably practised to the exclusion of the other. Although there is often a tension between the two, with one or the other predominant, there are benefits in using a variety of such strategies. Very few responses indicated a commitment to one at the expense of any other, and all were designed to fit into the local context (see Box 10 below).

Box 10: Taiwan

Taiwan encourages its pupils to learn actively. Emphasis is placed on strategies providing a framework for structuring pupils' ability to think in schemes for primary and secondary schools. Teachers receive in-service training on using Thinking Skills in the context of their own subjects.

Many countries are moving away from high-cost individual or small group provision, to a more mainstream mode of delivery where schools are expected to do more themselves.

Acceleration

Nearly 40 per cent (39.4%) of the gifted were accelerated in school. This is a high figure (even allowing for the influence of Western American models) but it most probably reflects a generous interpretation of the term to include a variety of subject-based acceleration techniques as well as more traditional grade-skipping approaches. 59% reported a more advanced curriculum and 42% reported a faster pace. (See Box 11 below.) It is difficult to specify the types of acceleration within the survey, but the following list, usefully summarised by Montgomery (2009), is adapted here:

- Early entry into a new phase of education – from nursery onwards
- Grade-skipping – promotion above age-peers by one or more years (in America it can be five)
- Subject acceleration – joining more advanced pupils for special subjects
- Concurrent studies – e.g. a primary school child may be following a secondary school course
- Compacting studies – the normal syllabus is completed in significantly less time, with clustering of objectives
- Self-directed study – which can be perceived as providing the opportunity to extend learning, or which more able pupils do while the rest of the class is catching up
- Mentoring – working with an expert in the field, maybe class teachers or outsiders
- Correspondence courses

Box 11: USA

The Belin-Blank Center, Iowa, is one of the most prominent advocates of acceleration in the field. It promotes acceleration as a prime option for highly gifted students. After 50+ years of research, they say it is underused. 'Accelerative approaches allow learners to proceed at a pace that maximizes their ability to learn; homogenous grouping and above-level curriculum allow them the opportunity to discuss and manipulate content that sparks continued learning.' They insist that acceleration should be an option available to all gifted learners; their advice to colleagues stresses very clearly their commitment to under-represented populations and to twice-exceptional learners.

Supplementary learning opportunities

This could be home schooling, summer schools or a specialist boarding school such as for sport. It could be a few hours a week within an institute of higher education or a day experience in industry, etc. Learners sometimes took higher-level courses in addition to schoolwork, to broaden knowledge and aspirations. Mentors, too, come into this category.

A significant proportion of programmes provided supplementary opportunities involving working with experts (58%). Summer schools are offered by almost half the respondents (47%). Whilst this might be seen as surprising, given the comparatively high cost of such models, it should be noted that 24% of respondents to the survey had national roles, implying that such provision is often made available across a wide geographical area but will only cater for a small minority of those eligible. Many countries are moving away from high-cost individual or small group provision, to a more mainstream mode of delivery where schools are expected to do more themselves. This trend can only be expected to continue as limited funding continues to be a major constraint on providers.

Where the infrastructure exists, online and distance models are reaching rural and remote communities.

Online (46%) and blended learning (a combination of live events and online support) emerged as main practice of over a third of respondents in the field. This is driven in part by the growing sophistication of the online offering and increasing reach as more communities secure internet access. Where the infrastructure exists, online and distance models are reaching rural and remote communities. Practitioners seem to be seeking opportunities to offer a wider range of provision to students and to build more support for classroom achievement. However, a significant caveat needs to be added here. Virtual learning opportunities tend to be strongly linked to economic factors. Creating resources, providing viable, local platforms and delivering access all require significant investment. See Box 12 below.

Box 12: Estonia

Estonia's Gifted and Talented Development Centre (GTDC) at the University of Tartu aims to give opportunities and possibilities for the development of pupils who have a deeper interest in science. The GDTC offers both the facilities to enrich pupils' knowledge beyond the usual school curriculum for those for whom the standard curriculum is insufficient.

Pupils can be identified by teachers or can approach the programme directly – there is no admission test or formal measure. Over 10,000 learners participate each year.

The GTDC organises national Olympiads in mathematics, physics, chemistry, informatics, biology and geography, and other areas. The GTDC organises courses into three levels – for older grades of elementary school students, more difficult courses for able high-school students, and special sessions for pupils who are preparing themselves for the international contests. The list of subject fields the GTDC covers is extensive – courses in mathematics, physics, chemistry, life sciences, and also in linguistics, philosophy, and other areas. It uses a variety of face-to-face, online and blended programmes.

Practical advice from the practitioners

Respondents were asked to provide advice from their own experience to other schools that are setting up programmes for gifted and talented students. They told us the following:

School-wide procedural issues

- Agree your identification procedures and long-term strategies
- Set up opportunities to celebrate all achievement across the whole school
- Ensure you monitor and evaluate from the beginning
- Differentiate your curriculum with high-level challenge for the gifted
- Make all procedures inclusive of all groups
- Keep the momentum going

Within-classroom strategies

- Promote the use of authentic problem solving
- Work on strategies to enhance subject-specialised challenges
- Use vertical grouping, enrichment and acceleration as appropriate
- Participate in challenging real-world competitions
- Provide opportunities for any student to shine

Partnerships beyond school

- Form networks with like-minded schools
- Improve access to good facilities and get volunteers from outside school
- Seek expertise from beyond your school and bring in graduates and researchers
- Use the internet and find specifically designed online multimedia resources

Involvement of stakeholders

- Get the parents involved to support your work
- Build good communication networks with all your key stakeholders
- Work closely with leadership teams and governors within your school
- Don't neglect public opinion

The use of student voices

- Listen carefully to what students tell you that they like and want
- Set up school councils with real responsibilities

Use external agencies

- Lobby governments
- Seek advocates
- Apply for long-term funding
- Get scholarships for your students

Continuing teacher development and involvement

- Get teachers involved at all levels and train them effectively
- Ensure teachers receive further professional training and certification
- Have online and live support for longer-term effective training.

4. Recommendations and future trends

Whole school improvement is enhanced by a focus on gifted education.

From the analysis of the survey results:

1. **Building capacity** within education systems is vital for meeting the needs of gifted learners. This can be more efficiently offered by taking a broad approach through initial training and professional development, in order to equip all classroom teachers with the skills for differentiation. Specialists can be extremely helpful as advisers and mentors to classroom teachers than as teachers of gifted learners themselves. Effective professional development can often be integrated with provision for learners.

2. **Representation** means that the identified gifted population should broadly reflect the whole school population. Unless providers are explicitly focused on improving standards only for high achievers, it is essential to take a multi-faceted approach to discovering hidden potential. Open access approaches are still unusual outside the cultures which developed them, but there is a case for including them within a portfolio approach.

3. **Whole school improvement** is enhanced by a focus on gifted education. There is often too much emphasis on improvement from the bottom up, tackling the needs of the lowest achievers. By starting from the curricular and pastoral needs of their most able learners, schools can create a much more positive environment in which diversity and innovation are valued. This is rewarding for the whole school community, and for teachers as much as pupils and parents.

4. **Classroom** teaching can be provided through acceleration, enrichment and differentiation – determined by the needs of the learners. Acceleration and enrichment are not mutually exclusive and a rich approach to provision will incorporate elements of both as appropriate.

5. **Diversity** means that one size will not fit all. Although it may be tempting to assume that gifted learners are similar, these students are as diverse as the general pupil population. It follows that providers must tailor their provision to suit the very different needs of the individual learners.

6. **Educational effects of disadvantage** must be recognised. There is a growing international focus on inclusion. Recognising high-level potential in disadvantaged learners brings gifted education into mainstream educational practice.

7. **Local educational priorities** need to be the focus for providers if they are to secure commitment and support for gifted education. Schools have a wide range of seemingly conflicting priorities and gifted education has to convince that it can effectively benefit many alternative strands of school endeavour.

8. **Parental engagement** is critical to effective provision. Parents respond well to opportunities to become directly involved as partners in their children's learning. All involved find mutual benefits.

9. **Online learning** is needed to develop learning and support for students and their educators. Social networking techniques have enormous untapped potential in this field which is only now beginning to be exploited. Online programmes can support improved collaboration and communication as well as strengthening learning and professional development.

10. **Limited funding** strengthens the case for providers to pool resources and expertise. Competition has only moderate value. There is a strong case for securing more public-private funding agreements.

11. Evaluation is imperative. Providers must carefully and continuously monitor outcomes of the learning they offer, so that issues can be spotted quickly and problems rectified. Evaluation is important evidence to support the case for expansion or replication of a service elsewhere. Many providers are aware of the importance of evaluation, but too few are translating that into practice.

12. Research needs to be robust and supportive, and expressed in terms that are meaningful and relevant to practitioners. Too much emphasis is currently given to the development of elaborate theoretical models. The gifted education community urgently needs to resolve this problem for the sake of its own reputation – and effectiveness.

Major trends from the survey

1. There is steady movement –

away from gifted education designed in terms of:

- giftedness as predominantly inherited
- a small percentage of measurable high achievers
- domination of acceleration and/or withdrawal for special provision,

towards seeing giftedness as:

- predominantly developed through opportunity allied with application and effort
- potential among many, acknowledging peaks of gifts at different stages of students' school careers
- focusing on a wide range of abilities extending beyond the academic – including help for the disadvantaged gifted to overcome their difficulties
- possibly requiring support for special social and emotional needs
- encouraged by enrichment and differentiation within the normal classroom
- a feature of normal children with special gifts, who are in all other ways like their classmates.

2. Collaboration between gifted education providers is increasingly recognised and taken up, whether locally, nationally or internationally.

3. There is a growth of a more democratic approach that is empowering to teachers, parents and students.

These trends should not be seen in black and white terms but as gradual from the extremes. We suggest that neither extreme is desirable: the right balance lies somewhere between – and that balancing point seems to be shifting subtly towards the re-perception of giftedness as an attribute more generally available than it used to be.

Providers are becoming more sophisticated in choosing and applying various models and recommendations in gifted education which are appropriate to their circumstances. This is well illustrated by the finding that over 110 separate authorities were cited by our respondents. Possibly, because of the limited material available to practitioners of what works in a local context, there is an increasing tendency to combine approaches, selecting elements in new ways. This suggests the growth of a more democratic approach that is empowering and to be welcomed.

'Gifted education has to address the big 'so what' and 'why bother' questions. It has to demonstrate that it has something substantial to offer.

Collaboration between gifted education providers is increasingly important, whether locally, nationally or internationally. There is a significant need for better communication and understanding between providers so that they work effectively together for the benefit of gifted learners.

Closing statement

'Gifted education has to address the big 'so what' and 'why bother' questions. It has to demonstrate that it has something substantial to offer. The only way it can do that is through partnerships – with networks of schools, educational authorities, cultural and research institutions, and parents.

Only through partnerships have we managed to increase our impact, ensure that the voices and experiences of teacher, students and parents are heard, and issues of transferability are understood. And only through partnerships with our international colleagues, can we understand what really works around the world and transform how all of our brightest students are recognised, supported and challenged.'

The Tower Education Group, London, UK

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Our aim is to provide direct impact on beneficiaries, via educational practitioners and policy makers. We provide a range of publications from practice-based intervention studies to policy-forming perspective papers, literature reviews and guidance materials.

In addition to this publication the following research may also be of interest:

Research on gifted and talented education:

Developing a gifted and talented strategy: Lessons from the UK experience
Many schools tell parents that they aim to 'realise the potential of all pupils'. What does this mean in practical terms for gifted pupils? How should we organise our finite resources at school level and, above all, what should we do in individual classrooms on a daily basis to meet the needs of these young people? This booklet seeks to answer these questions.

Young Gifted and Talented: Journeys through Australia, China, South Africa and the United States of America
This report summarises the experiences of teachers who participated in international professional development visits to explore the provision of education for gifted and talented students in Australia, China, South Africa and the United States of America.

Research on international comparisons in education

International comparative study in mathematics teacher training
This project investigates best practice in the training of teachers of mathematics in some of the most successful countries in the world, for both primary and secondary sectors. The first report was published in April 2008 and the second report will be published and launched in late 2010.

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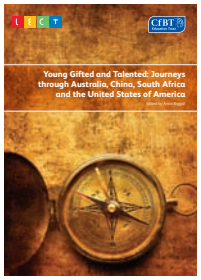
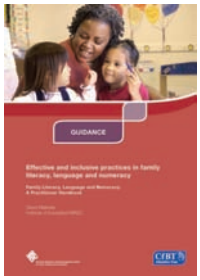
The publication reviews the literature regarding school admissions in England, Sweden, the Netherlands and New Zealand.

Effective and inclusive practices in family literacy, language and numeracy: a review of programmes and practice in the UK and internationally
This publication documents a qualitative and quantitative meta-study that examines inclusive family literacy, language and numeracy practices.

For further information or for copies of the above research please visit our website at www.cfbt.com/evidenceforeducation or contact our Research team at research@cfbt.com.





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