

## **Nurturing the Young Shoots of Talent: using Action Research for exploration and theory building**

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### *Abstract*

*This paper reports the outcomes of a set of action research projects carried out by teacher researchers in 14 Local Education Authorities in England, working collaboratively with University tutors, over a period of 3 years. The common aim of all the projects was to explore practical ways of nurturing the gifts and talents of children aged 4-7 years. The project was funded by the Department of Education and Skills in England as part of the government's gifted and talented programme. The project teachers felt that their understanding of issues relating to nurturing the gifts and talents of younger children was enhanced through their engagement in the project. It was possible to map the findings of the projects to the government's National Quality Standards for gifted and talented education which include 1. Identification, 2. Effective provision in the classroom, 3. Enabling curriculum entitlement and choice, 4. Assessment for learning, 5. Engaging with community, families and beyond. The findings are also analysed within the framework of good practice in educating children in the first years of schooling. Participating practitioners felt that Action Research offered them a suitable methodology to explore the complexity of the topic of giftedness through cycles of planning, action and reflection and personal theory building.*

**Key words:** Gifted education. Early years, provision

### **Introduction**

A review of research literature undertaken by Koshy and Robinson (2006) suggests that of all the children with special needs, younger gifted children are the group most frequently ignored throughout the world. There are educators who feel that such children have no special needs whatsoever and it is far too early to think about their gifts and talents. A literature search carried out by the authors of this paper showed that although there is a significant amount of research on older gifted children, internationally, there is a paucity of studies exploring aspects of giftedness in younger children. What may happen if the development of talent in younger children is ignored? There will be losses for the children themselves and for the society at large. In terms of equity and justice it would be difficult to justify continued neglect of

children for whom what is offered in the first years of schooling may be a poor fit and could result in boredom and frustration. Like all children, gifted children also deserve a happy childhood full of vigour, joy, optimism and growth and in which their potential and capabilities are stretched and fulfilled. Gifted individuals of all ages thrive best in environments that are a good fit for the level and pace of their development, with the joys and strengths that come from mastering challenges as well as companions who share their interests, curiosity, depth of understanding and sense of humour (Neihart, Reis, Robinson, & Moon, 2002). These young people will be involved in the future in solving the problems that currently seem unsolvable and whose creativity will open doors to better tomorrows. So, there are profound reasons in support of providing enriched learning experiences for these children. In this paper we present an account of the attempts made by groups of teacher researchers in meeting the needs of younger gifted children and the learning that emerged from the process.

## **Context of the study**

Two radical new initiatives gathered momentum in England between 1998 and 2003. Firstly, a National Strategy was launched for the enhancement of education and care services for children in the early years. The last 10 years has witnessed a time of radical transformation and change to put in place high quality integrated early learning and care experiences for children from birth. The intention is to provide in all communities a Children's Centre which will meet all children and family needs comprehensively and inclusively. To support this development, curricular guidance for teaching children in The Foundation Stage (3-5 year olds) was provided by the government in 2000 (DfES/QCA 2000) and for children from birth to three in 2002 (DfES/QCA 2002). In 2007 these two documents have been brought together in a new curriculum framework for the Foundation Stage which covers the period from birth to five years (DfES/QCA 2007).

In 1999, the UK government launched the second initiative - a national *Gifted and Talented* programme (DfES, 1999) - which was initially aimed at driving up standards in inner-city areas (DfES, 1999). Subsequent policy papers have set out Government plans to further improve outcomes for gifted and talented learners. The Gifted and Talented programme was first targeted at Secondary schools (pupils aged 12-16 years) and schools were required to identify the top 10% of their intake as *Gifted and Talented* and provide a distinctive teaching and learning programme for them. In the following four years the *Gifted and Talented* initiative was extended to upper Primary schools (children aged 9 -11) and since 2007 (DCSF, 2008) it covers the whole age

range of 4 -19. It was interesting to note that neither the early years' developments nor the *Gifted and Talented* initiatives had references to any aspect of developing gifted younger children prior to 2007. Koshy' survey (2002) highlighted that teachers of younger children, who attended 54 courses and national conferences for *gifted and talented* education during 2002- 2005, pointed out that only 3 of them had even mentioned younger children in their content. It is against this background that, in 2003, the authors were commissioned by the UK Government to support groups of practitioners responsible for the education of children aged 4-7, from Local Education Authorities across England and Wales, to carry out Action Research projects to explore aspects of both identification and provision for younger gifted and talented children.

## **Purpose of the study**

The main objectives of the study were to:

- guide groups of teacher researchers to explore aspects of educational provision for younger gifted and talented children (4-7) in collaboration with University tutors.
- identify issues which are of particular significance for practitioners to implement national policy on gifted and talented children .

## **Theoretical framework and perspectives**

The project drew on a range of theoretical perspectives. The important role played by more knowledgeable adults – teachers, parents and classroom assistants within the context of actualization of talent (Vygotsky 1978), was highlighted. It was felt that there was a need to recognise that gifted and talented children do not fit into the Piagetian model of 'normal development' because of their advanced cognitive development and their ability to process information, can often be faster than their peers. The importance of early identification and provision for younger gifted children has been highlighted by Bloom (1985) who studied world-class achievers in sports, arts and academic subjects. His case studies showed that giftedness can be observed in early childhood and that many of the eminent achievers were introduced to the area of their talent by their families early in life. One of the reasons that makes educators shy away from the identification and development of talent in younger children is the fear that the advancement will be a 'flash in the pan'; but Robinson (2006) assures us that studies in the USA show that when we combine adults'

description of the children with evidence from objective measures of development, we can identify children who are gifted and talented and remain so.

Despite this evidence the actual terms 'gifted and talented' are little used in the early years discourse. Interestingly, they do not appear in the new Curriculum Guidance for the Foundation Stage in England (DfES/QCA 2007). This new document acknowledges that "Children develop and learn in different ways and at different rates" but does not specifically provide guidance on how to support those children whose development appears to be accelerated.

Teachers in the project drew on Gardner's (1983) theory of Multiple Intelligences and his assertion about its educational implications that it should be possible to identify an individual's intellectual profile (or proclivities) at an early age and then draw upon this knowledge to enhance that person's educational opportunities and options. Renzulli's (1986) Three-ring model which emphasises the role of creativity and task - commitment to be as important as high ability and Sternberg's (2000) view of intelligence as *developing expertise* were also used to guide teachers through the complex processes of identification and provision. For practical purposes, the project adopted the terminology used in the English government policy, which defines *gifted* pupils as those with academic ability which places them significantly above average for their year group and *talented* pupils as those whose abilities in art, music, dance or sport are significantly above average.

## **Literature review**

### ***Issues of Identification***

The first question that needs to be addressed is: who are younger gifted and talented children? There is no internationally accepted definition of giftedness (Balchin et al, 2008) although there is general agreement among educationists that there are many children in all countries who have special gifts and talents which need to be nurtured. Defining giftedness in early childhood is a challenging task due to the *uneven* nature of children's development and so no accepted definition exists (Coleman, 2004; Cramond, 2004; Gagné, 2004; Sternberg & Davidson, 2005). So we must make do with an informal consensus. For the study reported in this paper we considered children who show *significantly advanced abilities and skills* in any domain to qualify as gifted and talented. In young children, it is the evidence of *promise* of developing

abilities that provides indicators. In most of the research studies or initiatives carried out in the USA, it is the most advanced who are considered sufficiently different from their age peers as to need special attention outside their ordinary settings (Robinson, 2006). We know from some of the earliest and most extensive research on gifted young children, cited in the previous section, that retrospective accounts of the childhoods of individuals who, as adults, made significant contributions had exhibited precocity during their early years. Some of them showed astonishing precocity - and most had been encouraged by their families towards high achievement. An interesting study of young adults who were world-class achievers in sports (swimming, tennis), the arts (pianists, sculptors), and academics (mathematics, research neurology) by Benjamin Bloom (1985) and his colleagues, also confirmed that precocious talents could often be observed in early childhood. Many of the children in the sports and performing arts had been introduced to their area of talent by their families, and had been gently coached and encouraged until their own strong motivation took over. The importance of the early years in at least some talent areas such as classical music and dance (Winner, 1996) has been re-confirmed many times. The implications of this for parents and others who work with younger children are significant. As Pascal (2006) points out, "Any work on identification should be done hand in glove with parents. At this stage, the parents frequently know their children best. There should also be a sensitive awareness of cultural differences...generally assessment should be ongoing, rather than carried out at fixed points."

We have some useful evidence on the role of parents in the identification of early gifts and talents of children who can provide reliable information. Robinson (2006) points out that at the University of Washington, when parents were asked to 'volunteer' precocious young children, they have done so successfully. Four such studies have been carried out by investigators associated with the Robinson Centre. In each one, parents not only accurately identified very young children with advanced development, they could also claim that the advancement remained or even increased during the next two to five years. We don't know of any such studies which explored teachers assessment of giftedness in younger children.

### **Early Educational provision**

Educational options available for younger gifted children relates mostly to early entrance to kindergarten or first grade (Robinson, 2004), although this is a

contentious issue. Whilst Robinson (2006) points out that early entry has many advantages for gifted children since it is the least disruptive in terms of friendships and curriculum, is inexpensive and at least in the beginning can provide appropriate challenges for the academically precocious child, she also warns us of the conflicting views and pitfalls in the research base. Some studies have shown that younger accelerated children are less mature in terms of achievement and adjustment and are more often referred, because of suspicion, of learning disabilities (Maddux, 1983).

### ***Educational programmes for young gifted children***

With regard to special educational programmes for younger gifted children, there is very little published literature available. Some of the programmes have targeted children whose development is distinctly advanced, while others have tried to encourage children 'of promise' who were growing up in unpropitious circumstances. There is useful advice from Morelock and Morrison (1999) who argue that a 'developmentally appropriate' curriculum for young, gifted children must take their advancement into account. They describe a framework for a multidimensional, five-level curriculum that proceeds from children's concrete, direct experiences through increasingly contextual and abstract dimensions crossing disciplines. A pre-school programme, instituted at the University of Washington in the mid-1970s, is one of the few that has tried to validate its efforts (Roedell, Jackson, & Robinson, 1980); this study demonstrated that – as is the case with older children – simply bringing bright children together in a nurturing environment isn't enough. To achieve measurable academic gains, it is necessary to develop a targeted academic curriculum that creates challenges and an optimal match with the children's level and pace of development as well as their social development and interests.

### **What does research tell us about educational provision for younger gifted and talented children?**

Our review of the literature showed that research findings on younger gifted and talented children are sparse. But, as stated earlier, studies have shown that it is possible to identify the special gifts and talents of children at an early age, as they do exhibit personal interests and passions in early childhood. There is some evidence that parents can often provide reliable information on children's gifts and talents. No studies seem to exist which have explored the effectiveness of teachers' identification systems. Studies on early entry to schooling have produced some

useful guidance as to its use as a strategy for provision. Although there are very few studies which evaluated the outcomes of enrichment programmes for younger children, children seemed to have benefited through their attendance in these programmes if the activities offered were well planned and stimulating.

## **Methods and modes of enquiry**

We used Action Research as the methodology for this project. Opportunities to gather and analyse data themselves was particularly welcomed by the teacher researchers, so was the process of constantly reflecting on ‘ what am I doing here?’ ‘how do my actions contribute to enhanced learning opportunities for the children?’ and ‘how does what I do improve my practice?’ The process of practitioners undertaking research, in collaboration with academic researchers in Universities, has been growing in popularity in the UK for the past 6 years (Pascal and Bertram, 2005, 2007). Hargreaves (1996), who drove the agenda for evidence-based practice in education, views researchers and practitioners as co-creators of knowledge. Within our Action Research projects which drew on many of the principles set out by Koshy (2005), knowledge was generated within the practitioners’ contexts. The aim was to encourage groups of teachers in the ‘production of new knowledge’ in the context of application. It was also felt that University tutors and practitioners working collaboratively enables both knowledge transfer and accessibility (Furlong, 2004).

Both the teacher researchers and the University partners felt that Action Research with its self-reflective spirals of planning a stage, acting and observing the process and consequences of the change, reflecting, re-planning, acting and observing, reflecting and so on (Kemmis and McTaggart, 2000) was particularly suitable for exploring aspects of gifted and talented education because of its complexity and the very little previous research which exists on the topic. Teachers who held their own theoretical positions with regard to gifted education were actively engaged in debates on different perspectives on the concept of giftedness which included the role of nature versus nurture and other ideological conflicts of labelling with regard to making special provision for ‘gifted and talented’ children .

Due to the context specific nature of action research projects, the researchers were aware of the limitations of generalisability and replicability within Action Research, but this was acknowledged at the start. Epistemologically, it was accepted that knowledge is uncertain and was created through negotiation of meanings by

discussions with others, followed by reflections. The data gathered was mainly qualitative, with the exception of the use of questionnaires within the projects. In-depth case studies were produced by each of the project teams following Yin's (2003) guidance on what constitutes an exemplar case study that it must be significant, complete, consider alternative perspectives and must be told in an engaging manner. The use of multiple case studies, according to Miles and Huberman (1994), however increases the generalisability and at deeper level 'the aim is to see processes and outcomes across many cases and thus to develop more sophisticated descriptions and powerful explanations'. (p.172).

## **Participants**

14 Local Authorities in England and Wales, out of a total 150, joined the research project from those who expressed interest. Selected groups were representative of socio-economic groups and geographically distributed across the country. Each group consisted of 3 practising teachers and one adviser who co-ordinated the project locally. The topics for exploration included a range of issues relating to gifted education. The intention was that all projects would produce in-depth case studies which would serve as documentaries and form the basis of replicable models in other similar contexts.

All the practitioner researchers received support in research methodology and literature analysis from the University partners. As government initiatives in gifted education are fairly new in the UK, practitioners also needed considerable input relating to all aspects of giftedness and giftedness in younger children, in particular. All the practitioners taught children in the age range 4-7.

## **Data gathering**

Data was gathered from the following sources:

- Demographics of participating institutions and their intake of students
- Questionnaires used within projects, these were open-ended and context specific
- Interviews of students and colleagues
- Participant observation notes
- Notes of visits by University tutors
- Group discussions of participants at the University
- Video recordings of sessions
- Practitioners' logs
- Interim and final reports and case studies
- Recorded evidence of on-going samples of children's work and responses during lessons.



As the research projects were carried out in collaborative teams, validation meetings were organised during which the researchers articulated their data collection procedures and how the data was triangulated to a group of 'Critical Friends, which was set up prior to data collection. Ethical issues and the possible impact of the researcher on the findings were discussed.

## **Data analysis**

Data analysis consisted of studying all the data collected during the project and noting emerging patterns and themes (Miles and Huberman, 1994). Coding techniques (Strauss and Corbin 1998) were also used.

The ultimate purpose of all the Action Research projects was to explore aspects of educating younger gifted and talented children and devise frameworks which could guide future provision. The findings of the fourteen research projects enriched and extended the knowledge base and understanding of gifted and talented education in Foundation and Key Stage 1 settings (4 -7 years) in England and Wales. Each project was designed to address the needs of schools and Local Education Authorities, within the context of the national agenda for gifted and talented education in the UK. Some projects focused on approaches to the identification of young gifted and talented learners and others took aspects of curriculum provision as their main focus. Some projects focused on subject-specific (music, mathematics and writing) provision whilst others explored cross-curricular and thematic approaches to provision. In some of the research projects, the individual needs of some learners predominated. For example, the hearing impaired gifted and talented children or, children with English as an Additional Language or the behaviourally challenging gifted and talented children. Some projects explored relationships with parents or the wider community. A full report of the project and case studies are published by the UK Department of Employment and Skills (Koshy *et al* 2006). Despite the rich diversity of the projects, it was possible to discern a range of common themes and shared experiences in the research findings that can, in turn, be mapped onto the strands of the UK's National Quality Standards for gifted and talented education (DfES, 2007). The fourteen research projects also provide illustrative material.

Decisions about what findings should be included in this paper were made considering what is feasible within the scope of a journal article. Descriptions of methods and accounts on the projects can be accessed in the report (Koshy *et al*,

2006). However, we have tried ( as much as possible) to include detailed descriptions of what transpired during the projects, drawing on data collected during and after the project and the case studies produced by the teacher researchers. These take the form of narratives and are discussed under the five broad strands of the framework (these are not ranked in any way) of the National Quality Standards for gifted and talented education, which schools in England and Wales are expected to follow and show evidence of its use, from September 2007. Then, based on these narratives, some significant issues which were highlighted during the three years are raised and briefly discussed in relation to the four key strands in the new Early Years Foundation Stage (*DfES/QCA 2007*) that are:

- A Unique Child
- Positive Relationships
- Enabling Environments
- Learning and Development

To set a context for what follows, it should be borne in mind that the action researchers were in full-time posts when they began their journey of exploration of the complex terrain of gifted and talented education – with very little knowledge and experience of the topic. They were involved in constructing a framework of understanding for themselves and for fellow practitioners within their institutions, as well as others in the wider education community, through sharing experiences. The following analysis reflects some of what transpired during the projects and shows the developing expertise of a group of practitioners trying to make sense of what they heard, observed and collected during the 3 years. The different projects are referred to using the names of the Local Education Authority where the project was based.

### **1. Quality Standard : Identification**

There was ample evidence to show that professional understanding of the identification of gifted and talented learners was deepened as a result of sustained involvement in the action research process. Practitioners involved in the research projects gained vital professional development in both defining and identifying gifted and talented learners. The project teams developed a growing awareness that the identification of young, gifted and talented learners is highly complex and emphasis needs to be given to identifying potential gifts and talents at this stage of the children's learning development. Exploring one or a limited number of identification approaches, in depth, provided the teachers with the necessary confidence to move

on to consider multiple criteria and sources of evidence. Initially, as well as taking note of national standardised assessment data where appropriate, the identification processes fell into three broad categories:

- i. semi-structured classroom observations
- ii. semi-structured interviews (conferences) or questionnaires for parents
- iii. Conversations with children including semi-structured evaluations by children

Some Local Authorities, for example the Devon project, developed a semi-structured observation schedule for identifying young, gifted and talented children based on the six areas of the UK's Foundation Stage Curriculum – which includes mathematics, literacy, personal, social and emotional development, knowledge and understanding of the world and creative development (DfES/QCA, 2000). Others devised activities, games and assessment materials focusing on one subject area. For example, the York project considered the identification of musically talented young children using an identification chart developed by an expert in the local music service. The debate on whether identification should be based on a general set of criteria or a list of subject-specific attributes was a continuing debate.

Some of the project teachers chose not to take a curriculum subject focus but to consider other attributes of gifted and talented learners. For example, five Reception class teachers (4- 5 year olds) within Kent, used the Leuven Scales (Laevers, 2009) for 'well being' and 'involvement' to screen their classes in order to identify 'intriguing' children and possible underachieving gifted and talented learners. The Suffolk project used the theoretical framework of Gardner's (1983) multiple intelligences as a basis for observation of special abilities, Renzulli's (1986) Three-Ring Model and the Nebraska 'Starry Night' (Eyre, 1997) observation model in their identification processes and consequently identified attributes such as sensitivity, humour, imagination, observation skills, task commitment and creativity in their gifted and talented children.

Teacher researchers used existing research perspectives to establish identification systems for multiple exceptionality in the Hounslow project. Two project schools established a group of potentially very able children: eight children with English as an Additional Language and two hearing impaired children. Gardner's (1983) multiple intelligences were used to provide learning experiences in the form of enrichment projects that were not only focused on just the development of linguistic competence.

Both schools developed a shared understanding of the key criteria for enrichment activities that would support identification of gifted and talented children. Each curriculum enrichment project was then trialled in the Reception classes at both schools and the team evaluated *the outcomes*, feeding successful, key principles from this phase into forward planning. The four mini-enrichment projects satisfied the following criteria:

- explicit intentions without the need for language
- problem solving, allowing for divergence of thought
- open-ended, but with completion criteria so that all members of the group could experience success
- linked to previous experiences and / or culturally accessible to all
- no space or time constraints

As the projects progressed, teachers gained confidence in their ability to use and to analyse the evidence from particular identification approaches. Their judgements and assessments of gifted and talented learners also became more refined and rigorous. The Richmond project leader reported that:

*For the first part of the study, in June 2003, twelve of the most able writers in year 2 (6-7 year olds) were selected. For the main part of the study, from October 2004 to January 2005, six children were chosen from year 1 (5-6 year olds) and six from year 2. These six pupils had been identified as more able writers on the school's gifted/talented register and have been tracked since the Foundation Stage. This dramatic reduction in numbers of pupils involved represents our growth in understanding that there is a wide gulf between the 'more able' and the 'gifted' writers. As the research progressed, the number of gifted writers seemed to decrease!*

The need for flexibility in the process of identification, especially with younger children, was highlighted by the researchers many times during the project.

## **2. Quality Standard : Effective provision in the classroom**

Many of the teachers concluded that effective classroom provision was the key to an effective process of identification. Researchers also reported that planning

appropriate curriculum provision to challenge and extend the more able learners raised their own expectations of the whole class.

The project teachers reviewed and revised their teaching strategies alongside their approach to curriculum planning. The Devon project team's experience reflected many of the other projects in that, overall, the teachers' curriculum planning became more flexible and creative as was described by the practitioners:

*'...the children's enthusiasm is infectious and promotes passionate teaching!'*

Changes to curriculum planning that emerged from the project addressed one or more of the following:

- i. the integration of higher order thinking skills and creative thinking;
- i. planning of open-ended activities and enquiries provided opportunities for problem solving ;
- ii. taking children's special interests and passions as a central element of curriculum planning.

Changes were often made to the normal time-table of events. For example, in the Wandsworth project an 'interest time' was built into each week's timetable and, at the outset of each topic, emphasis was given to children establishing questions that they wanted answered. In a similar way, the Dorset and Hillingdon project teachers integrated a programme of special workshop or activity days into their time-tables. Dorset focused on the development of cross-curricular tasks to develop children's creative thinking skills whilst Hillingdon began with after school workshop provision for mathematics within a cross-curricular theme. Two Suffolk schools also gave curriculum time to developing individual children's special interests via individual '*I like learning about*' journals. The journals provided a shared home-school focus for developing personalized learning journeys.

Researchers in two Inner London schools in Southwark devised mini-enrichment projects designed to be cross-curricular and to cater for different learning styles. They too aimed to encourage the use of higher-order thinking skills, problem solving and creativity. Each project was set out on a planning web, showing how activities linking to different areas/subjects of the curriculum could be generated from a single

starting point. A broad range of outcomes including story maps, book making, artwork, life cycle drawings and plays were suggested. Resource boxes were made to support each project and suggestions for other useful materials were made.

Emphasising the importance of the learning environment to support new curriculum practices was evident in all of the projects. For example, the Devon teachers identified ways of adopting the Reggio Emilia (Edwards, Gandini and Forman, 1998) principles into their own provision. Care was taken with the design of the learning environment both inside and outside the classroom – soft qualities such as light, colour, sound, micro-climate needed to be emphasised. Parents often contributed in unexpected ways, for example providing a special carved wooden seat for the outside environment so that children could read undisturbed and in comfort outdoors! At the same time, learning resources needed to be multi-sensory and provide children with opportunities to explore and represent their ideas in multiple media ('the hundred languages of children', Edwards *et al*, 1998). In this way, children were supported in following their individual learning pathways.

Removing time constraints enabled gifted and talented children to work at their own level of challenge and at a pace appropriate to their individual needs. Dorset teachers reported that by taking 'a step back' from direct teaching and allowing children to make decisions about their own learning, as well as allowing the children to work on self sustaining tasks resulted in high levels of concentration from the children. One Devon head teacher was challenged by the children's comment in a discussion about thinking that:

*'There's more to wonder about at home now.'*

and said:

*This led me to wondering aloud about whether there was enough thinking time and space in school. The children's responses indicated that they thought maths, literacy and daily physical exercise gave you no time for thinking, whereas playtime had lots!*

### **3. Quality Standard: Enabling curriculum entitlement and choice**

Many of the project teachers revised their planning processes to enable more flexible curriculum planning and to provide enrichment opportunities sometimes for individual children, sometimes for pairs or small groups and sometimes for the whole class. Curriculum entitlement and choice were sometimes represented by individual learning journals based on special interests, sometimes by enrichment activities for small groups and sometimes by special activity days or projects for small groups and/or the whole class.

Inviting specialists to work with the children was one strategy employed. For example, Richmond invited an artist to work with a group of gifted Year 1 writers building a 3D space ship in order to enhance the children's opportunities for using the imagination and extended vocabulary. Similarly, in order to enrich the curriculum and support children's 'expressed interests', Devon teachers invited specialist inputs from local poets, bee-keepers and small holders; children were encouraged to make choices about their medium for representing their ideas. The invited experts were able to extend the able learners' thinking and respond more readily to their challenging questions.

An earnestly held belief of the researchers was that young children whose abilities lie way beyond their peer group must be identified early, particularly those with atypical learning patterns who have special needs that must be catered for appropriately. Another theme that was raised related to parents of young gifted and talented children who often felt unable to cope and lacked confidence in their ability to satisfy their child's specific needs, so they needed support.

Although the intention was not to 'hot house' these pupils, in one Local Authority an enrichment cluster was set up for very able children from a group of schools to come together where they were offered challenges and more opportunities to be creative. Fears that class teachers might become de-skilled as a result of segregated provision were assuaged as they were seen as integral partners in the process; the intention being to support them in providing for these children back in the classroom. However, the main aim was to avoid the situation - as discerned by one 6-year-old boy - *"I am on the hardest shelf and it is far too easy"*. The researchers felt that gifted and talented children like this should be offered a stimulating and challenging curriculum that encourages them to reach their full potential.

#### **4. Quality Standard: Assessment for Learning**

One of the areas that the teacher researchers developed, as reported by several of the project members was the process of relating assessment of ability to the learning process. One researcher reported 'a clear spiral of teacher development and practice' emerged:

*teachers' skills and confidence in identifying gifted and talented learners began to increase leading to*

*more focused curriculum planning addressing the needs of individual learners and an enriched curriculum leading to*

*increased assessment and identification opportunities and an enhanced assessment and identification process providing more finely graded insights (including pupil's own evaluations) leading to*

*an increase in personalized learning pathways and pupils sharing responsibility for designing learning tasks.*

#### **5. Quality Standard: Engaging with the community, families and beyond**

Using the expertise from the wider community has already been mentioned previously, with examples of experts working with children to enhance curriculum provision. Specialist inputs also came as contributions from parents at a number of different levels. For example, one of the identified gifted and talented children in the Devon project (aged 6) expressed his interest in *cross sections* on several occasions during the school year including a cross section of a beehive photographed in a non-fiction textbook. His teacher had been waiting patiently for an 'expressed interest' to arise as a starting point for curriculum development and so, when coincidentally a parent brought a wasp's nest into school, it was clear that a 'magic moment' for curriculum development was now available and Walter's interest became the



cornerstone for the whole class to engage in work linked to the theme of 'What's Inside?' A follow on project 'What's Outside?' included expert insights from a local parent bee- keeper and detailed representations of wasps and bees were worked on by the children using a variety of representations: Lego, paint, computer generated drawings, diagrams and close observational drawings.

Parental questionnaires asking them about their children's interests and special abilities featured in a number of the research projects with varying degrees of success. The Suffolk project focussed on enhancing the home-school relationship and engaging families. A lack of parental response to an initial questionnaire sent home to parents prompted the research team to rethink their approach and to plan a 'Creative Thinking in Partnership' meeting with parents. Teachers decided to modify the original questionnaire and provide the parents with support in completing it. In order to do this, it was felt that they needed to develop a shared language with families to enable them to understand the importance of their role in their child's education and that school staff valued their responses. At the parents' meeting teachers talked to the parents about how they carried out observations and how these helped them to recognise individual children's specific interests and special gifts. The staff also talked to the parents about multiple intelligences and gave them a simple questionnaire to complete to help them identify the ways in which they were 'smart'. The parents found this useful and began to consider how their own child's intelligences linked to the examples they had been given.

In an example of collaboration in the Bromley project, seven very able Year 12 students (17-18 year olds) acted as mathematics mentors for nine Key Stage 1 (5-6 year old) mentees from across five primary schools. The mentors were selected by the deputy head teacher of the local secondary school after applying, and being interviewed, for the role. Teachers from the Primary schools selected the Key Stage 1 children using a combination of measures - test results, teacher observation, checklists and parents' comments. The mentors worked with the children on mathematical tasks that they had planned with the help of the mentees' class teachers. They were trained to engage the children in discussions enriched by challenging questions, as well as in how to evaluate the outcomes of the sessions. Involvement in the mentoring process proved beneficial to both parties. The mentors gained a greater understanding of young children's learning, deepened their own understanding of mathematical concepts, enhanced their social skills and found

increased levels of self confidence. The mentees also gained in self-confidence and understanding of mathematical terminology, processes and concepts. One 6-year old said that his mentor made sure that he always used the correct terminology, so that by the end of the project he was confident in naming a variety of shapes, the properties of numbers (e.g. odd, even, prime number, positive, negative), as well as confident in using more complex terms such as 'obtuse' and 'acute' regarding angles.

Overall, the case study materials provided by the fourteen action research projects provided a rich source of exemplification material for teachers of younger children for both the identification of gifted and talented children and making appropriate provision for them.

## **Findings and discussion**

The researchers were aware of the limitations of Action Research in terms of generalisability, but they were able to identify common themes and issues across case studies. The richness of the gathered data helped the project teams to make useful interpretations which contributed to the replicability of the projects. Action Research offered practitioners a paradigm which gave them opportunities to construct their own understandings and meanings and develop their own personal theories in the area of gifted education, which is complex and relatively new in the UK. The professional expertise of the teachers in relation to gifted and talented education was enhanced not only by their involvement in the Action Research process, but also by ensuring that the research teams involved a wide range of expertise, sharing of ideas and working with University colleagues. Most importantly, all of the projects provide evidence of differing approaches to providing high quality educational experiences (learning journeys) to help nurture the potential of young gifted and talented learners.

The following are just some of the significant issues that emerged during data analysis. These are discussed using the four themes of the Early Years Foundations Stage (EYFS) (DfES/QCA 2007)

### ***Theme 1: Learning and Development: The needs of the exceptionally gifted child***

The principles set out in the EYFS (DfES/QCA 2007) state that “Children develop and learn in different ways and at different rates and all areas of learning are equally important and inter-connected.” Teachers felt that they developed both their understanding and skills of identification of gifted and talented children, but the challenge of meeting the needs of the exceptionally gifted was one of the major issues highlighted in several of the projects. Many of the practitioners felt that the needs of the *truly exceptional* young child were difficult to meet within a whole class situation. Three projects highlighted the conflicts and dilemmas faced by teachers who were expected to follow a nationally imposed curriculum employing whole class teaching methods, knowing that there were students in their class whose understanding of both mathematical content and the use of sophisticated processes were years ahead of their peers. Of interest to other practitioners, during a dissemination conference, was the case of 5-year old Matthew who called himself a ‘*Waiter*’, always ‘*waiting for others to catch up*’. As early entrance to regular school before the year when the child reaches the *magic age* of 5 is often dismissed outright by most practitioners in the UK, some rethinking may be necessary. Our literature search showed this to be a contentious issue also in other countries.

A range of strategies were employed to meet the needs of the highly gifted young child within the normal classroom. An enrichment cluster set up in a central venue, following the principles of Renzulli’s (1976) Enrichment Triad, was found to be highly effective in one Local Authority, where 20 schools sent their most able pupils to the cluster, where they carried out in-depth enquiries on topics, designed their own mathematical games and built model bridges – all scaffolded by adults including experts from the local University. 5-year old Sam, who had declared at the start of the project ‘*I am on the hardest shelf, but it is still all too easy*’ told the authors during an interview at the cluster that he ‘*used to be on the disruptive register*’ and had been taken off that list after joining the cluster. Other strategies for nurturing the talents of the exceptionally able included following principles of the well-known *Reggio Emilia* programme which offers students personalized learning opportunities by undertaking personal projects arising from their interests. Another effective strategy with positive outcomes was the use of older mentors to work with groups of gifted 6-year olds. Students who worked with the mentors developed their self-esteem and described their pleasure in communicating with them about complex mathematical topics.

## ***Theme 2: A Unique Child: Identification of and provision for gifted and talented children with special needs***

The new EYFS principles (DfES/QCA 2007) state that, “Every child is a competent learner who can be resilient, capable, confident and self-assured.” Two pioneering projects involved designing curriculum materials for special groups of younger children whose identification and inclusion in gifted provision posed particular difficulties. One of the projects targeted partially deaf children and the other was situated in an inner - city school within an area of high level of social deprivation. In both cases the 5-6 year olds had difficulties with language, both speaking and reading. Specially designed activities which provided opportunities to demonstrate their talents *thorough doing* were successfully used. This led to the identification of gifted children whose talents were masked by disadvantage. Video recordings showed two particularly significant ‘*magic moments*’ as described by the teacher researchers: one showing a deaf child of 5 displaying initiative in transferring water showed a firm understanding of hydraulic pressure by siphoning water from a higher to a lower level. ; the other gifted young child reproduced, from memory, a map of her neighbourhood which showed a remarkable talent for spatial awareness. The exemplar case studies of these children have raised awareness of the need for specially devised teaching materials to support the identification process, especially of children with special problems.

## ***Theme 3: Enabling Environments: Enrichment projects***

The new EYFS principles (DfES/QCA 2007) state that, “The environment plays a key role in supporting and extending children’s development and learning.” At the start of the project many of the teacher researchers felt it was too early for children, aged 4-7, to be selected for enrichment activities. This perception changed as the projects progressed and as project teams which tried this strategy reported the level of enthusiasm shown by the children who participated in these activities. Participating children exhibited pleasure in having the opportunities to explore ideas in depth and without time constraints of the normal classroom. A range of enrichment activities – general topics and subject specific were - received with much enthusiasm by the children and their parents. One parent, Fiona, wrote to the teacher:

*The difference the after school club has made to Daniel is tremendous. He brings the bits and pieces he has done at the club and talks about them endlessly; he wants to carry on finding out more. Television time has now been replaced by talking about what he wants to find out before the next club time.*

Teachers planned the enrichment activities taking into account the principles established during University sessions. The enrichment projects provided children with opportunities for personal research, working with more knowledgeable adults – experts, older student mentors - and working with peer groups of similar ability which enabled them to engage in conversations which may not always appeal to all their peers.

#### ***Theme 4: Positive Relationships: Taking note of special interests and passions***

The new EYFS principles (DfES/QCA 2007) state that, “children learn to be strong and independent from a base of loving and secure relationships with parents and/or a key person.” Data collected from projects showed that providing opportunities for children to share their interests with their peers, parents and teachers had contributed significantly to children’s general motivation and attitude to work. Several teachers confessed to not knowing their children’s interests until they either introduced ‘interest sharing times’ or made special efforts to find out what interested their children. Teachers were often surprised by the enhancement of children’s level of engagement in school, brought about by the scheduled interest discussion times. Amanda, a teacher of 5-year olds described:

*Melissa spoke very little in the first 4 months after she joined my class. Both the classroom assistant and I thought she was a day dreamer. I did wonder if she was very bright and had not just engaged in the activities because she didn’t find them interesting. During one of our ‘interest’ times she spoke a few sentences about her interest in Butterflies. The following day she brought some books on butterflies, from home, to show me. She could read them fluently; although they were mostly targeted at much older children. I asked her to spend some time doing a personal project on butterflies , which brought about a big change in her attitude to me and the class. A quiet,*

*dreamer became a passionate worker and produced a project folder which contained information about many varieties of butterflies, their sizes in centimetres and millimetres, their origin and individual specifications ...I would say : ask the children about their interests and let them do a personal interest project and you will soon identify your gifted and talented children.*

The important role of the parents in the identification of gifted and talented children and the ways in which they can support their children have also been shown many times in several of the projects. Parent questionnaires were established as particularly useful in the identification process. It was also reported that parents often expressed their pleasure in working in partnership with the teachers in supporting their children. Many of the teacher researchers felt that this is one of the areas which needed further development in their schools.

### **Limitations of the study**

The 14 Action Research projects have drawn mostly on descriptive, qualitative data to make tentative conclusions. Although the findings are not generalizable, new insights and frameworks have been generated by practitioner researchers from the collaborative work with the University team, all from an applied perspective. The descriptive accounts of the projects provide exemplifications of practitioners building personal theories of what works for them in their classroom and in their local context. Within the limitations of the context-specific nature of the projects, replicability of the projects by other practitioners may be possible . Initially many of the practitioners felt uneasy about the concept of describing a group of young children as *gifted and talented*; but as the project progressed that feeling of unease was replaced by enthusiasm and commitment to providing opportunities for nurturing the young shoots of talent in their children

### **Concluding remarks**

The outcomes of the research projects have been disseminated through national conferences and publications. Our findings have added to the knowledge base on appropriate provision for gifted and talented younger children, where very little research has been carried out. The practitioners who carried out the research felt

they had been empowered through their personal engagement in the projects. There are areas which need further exploration. Effects of early entry to school, how giftedness is sustained over time and the role of parents in the identification of the gifts and talents of younger children are just a few fruitful topics for investigation. The findings of the project have shown that personalised learning opportunities, which take account of children's interests and passions, can remove the blinkers of a prescribed curriculum with time constraints and replace it with enhanced and enjoyable learning experiences for the children. Instead of following a pre-determined path, young children can be guided by the sensitive hand of enquiry, rather than the gauntlet of test results and grades.

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