RESEARCH

Nurturing Gifted and Talented Children at Key Stage 1

A Report of Action Research Projects

Professor Valsa Koshy, Christine Mitchell and Dr. Mary Williams

Brunel University

department for education and skills
creating opportunity, releasing potential, achieving excellence

Research Report RR741

Research Report
No 741

Nurturing Gifted and Talented Children at Key Stage 1

A Report of Action Research Projects

Professor Valsa Koshy, Christine Mitchell and Dr. Mary Williams

Brunel University

ISBN 1 84478 726 5

Contents

1. Background and rationale

This report provides an account of Action Research Projects carried out by teacher-researchers in 14 Local Education Authorities. The project was funded by the Department for Education and Skills during the period 2003-2005. Dissemination of effective practices ran alongside the research work.

Data gathered from advisers and practitioners involved in educating children aged 4 – 7, by the research team at Brunel University, showed that young gifted children are frequently ignored in most initiatives in gifted education. This project sought to make a start in focusing on their needs – in terms of identification and provision and addressed many significant issues relating to the needs of younger gifted and talented children.

Who are these Young Gifted children?

In general, our working definition for this project was that children who show *significantly advanced abilities and skills* in any domain are referred to as gifted and talented. In younger children, it is evidence of the *promise* of developing abilities that tips us off. Most of the time, it is the most advanced – who are considered sufficiently different from their age peers who need special attention outside their ordinary settings that catch our attention. We also set out to identify the gifted and talented by making enriched provision in the classroom, by offering cognitively challenging activities. Without these most children, we believe, will not have a context to make their gifts and talents known.

Why we should nurture the gifts and talents of younger children?

If we don't make appropriate provision for these children there will be losses for the children themselves, for science, and for society at large (Robinson, 2004). Here are some reasons why we should care:

- First, like other children, gifted children deserve a happy childhood full of vigor, joy, optimism, and growth. Gifted individuals of all ages thrive best in learning 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).

- Second, children who are under-challenged and regularly asked to repeat activities they have long-ago mastered, risk not only the stultifying effects of incessant boredom but are likely to turn off their learning and not make appropriate progress. They may also try their best to be 'just like everyone else' and we may lose them at a very early age.

- Third, retrospective studies have shown that many eminent achievers showed curiosity and interest in their chosen field at a very early age. Gifts and talents of children need to be nurtured from the start.

- Finally, as a society we have much to lose if we do not support the optimal development of gifted and talented children. From them will come many of our social and political leaders of tomorrow, our scientists, our artists and other professionals who have the potential for creating a better life for all of us.

2. Nurturing young talent – making a start

Purpose of the project

The main purpose of the project was:

- to guide groups of educational practitioners in carrying out small-scale action research projects to explore aspects of effective provision for gifted and talented children,
- to contribute to a database of evaluated practices for wider dissemination and to provide local support,
- to make a contribution to the professional development of teachers within the area of gifted and talented education.

Principles

The present project is one of various initiatives launched by the DfES to enhance the quality of what if offered to children during the first years of their schooling which is, as research evidence points out, a very crucial time in their development. The research projects were based on the best available theory and international research and were subject to rigorous monitoring of the outcomes. The following principles provided a backdrop for the development of the project.

- Systems of identification of special abilities of children, informed by Gardner's (1993) theory of Multiple Intelligences.
- The Vygotskian (1978) principle of the significant role played by adults – parents, teachers and classroom assistants in particular – in the actualization of talent.
- The need to recognise that gifted and talented children do not always fit into the Piagetian model of *normal* development due to their advanced cognitive development and their ability to process information faster than that of their peers.
- The significant benefits of high quality educational experiences during the early years of education in children's development and in the realization of their potential (Clark, 1997).

3. How teachers carried out action research

Action research was adopted as the methodology for this project.

Action research, for this project, used the definition that it is an enquiry or research designed and conducted by practitioners aimed at improving their own practice and/or the quality of what is offered by their institution. The findings are then disseminated to a wider audience. It is carried out in the naturalistic paradigm of research. In action research the researcher reads relevant literature on related theory and existing research, observes carefully, reflects systematically and uses observations and reflections to improve practice. Each researcher (or group of researchers) identifies a topic for enquiry, formulates a plan, carries out an intervention, evaluates outcomes and develops strategies. It is a repeating cycle of these procedures.

This project used an Action Research model which is designed to train and support practitioner researchers to select and develop innovative practices in gifted education. In this model, which places considerable emphasis on collaborative work, research was done with - rather than on - the teacher colleagues. The AR Model used in this project is defined as (Koshy, 2005):

The Action Research projects were designed not only to improve one's own practice, but also to contribute to Continuing Professional Development of groups of teachers within their institutions, Local Education Authorities and other colleagues through presentation to a wider audience.

Planning

Teacher researchers selected a topic of investigation which either caused them concern or an aspect of practice they wished to improve. The following stages were followed within their action research cycle.

- Identify the topic of investigation
- Initial planning
- Review existing theory and research
- Plan activities
- Consider and decide methods for gathering data
- Collect data
- Analyse data
- Evaluate the project outcomes
- Reflect
- Present data and findings to colleagues
- Implement and disseminate

Data collection methods included the use of the following:

- Questionnaires
- Interviews with students, colleagues and parents
- Observation
- Analysis of documentary evidence
- Discussion with critical friends
- Video recordings

Mentoring and support activities provided by the University team

- Introductory talks to invited LEA groups outlining issues on gifted education for the young
- One-day workshop to outline the nature and of the commitments of partners
- Meetings to help partners to select aspects for research, design plans of action and mechanisms for evaluating progress
- Training programme, a total of 10 face to face days on research methodology, sharing of ideas and findings and distance learning of 60 hours
- Literature search for background of topics
- Guidance and supply of research papers and relevant books and resources
- Support with selection of appropriate research methods, data collection, triangulation and writing of research reports
- Guidance on evaluating outcomes to monitor the quality of research
- Support research partners to keep them on-track through e-mails, visits and local meetings
- Support dissemination activities at the DfES conferences and other venues
- Support with writing interim and end of phase reports.
- Writing up of case studies

Monitoring of quality and rigour

The project outcomes were monitored through

- On-going dialogue with partners
- Designated discussions with partners during University sessions
- Comments from participating groups
- Setting up of Critical friends within each group of researchers
- Interim reports from the partners
- Reports from University tutors' visits to research sites
- Interviews with partners, a sample of children and other local practitioners
- Conference presentations
- Final reports
- Notes of steering-group meetings
- Views and comments from an international expert in the field

4. Case study summaries

In this section, brief summaries of the 14 Action research projects are provided. These are also presented, in more detail, in Appendix 1. A commentary based on the Case Studies follows this section.

All 14 projects explored aspects of identification and provision for gifted and talented younger children. The Case Studies are presented in such a way that other practitioners – individuals and groups – should be able to adapt principles and the activities within their own situations.

Project 1- Belleville School, Wandsworth LEA

A whole school approach to identifying and providing for Gifted and Talented children in Key Stage 1

This project, which was carried out within an inner-city London school, aimed to raise the profile of Gifted and Talented Children by employing a range of strategies, which included providing opportunities for children to develop their higher-order thinking skills of analysis, synthesis and evaluation, raising teacher awareness of children's individual interests and involving parents in both identification and celebrating children's gifts and talents.

Professional development of members of staff was continuous. Evaluations showed an enhancement of teacher's questioning skills and specific targeting for cognitive challenge for gifted and talented children. Children demonstrated a higher level of meta-cognitive skills and enhanced self-esteem and confidence.

Project 2 - Bromley LEA

Mentoring Exceptionally Able Pupils at Key Stage 1

The main aim of this project was to explore the effectiveness of how older students (aged 16 – 18) from a neighbouring school acting as mentors to younger children in KS1. Using well planned activities the mentors encouraged their young gifted mentees to think about complex ideas in depth, discuss and refine strategies and undertake challenging tasks.

The result of this manageable and practical idea was encouraging. The following outcomes were particularly positive:

- Both mentors and mentees perceived the experience as challenging their own learning.
- Younger children made further use of the opportunities provided to them for exploring complex concepts and constructing personal theories.

- Parents of the gifted children commented on the positive effect of the intervention.

This project has been extended to include more schools within the LEA.

Project 3 - Exeter University and Devon LEA

The Identification and Provision of Effective Teaching and Learning Strategies to support Gifted and Talented Children in KS1 Classrooms

The researchers who were involved in this project explored the challenge of motivating and offering cognitively demanding and enjoyable tasks for exceptionally able children. The *Reggio Emilia* Programme was found to provide effective strategies based on collaboration, observation and giving children personal attention to make inclusive provision in the classroom.

Teachers who were involved in this project developed their skills in assessing childrens' special abilities and interests and provide appropriate tasks for them. Children were enabled to set own challenges and follow their interests. Students were providing opportunities to accelerate their own learning whilst being engaged in in-depth enquiries. The cross curricular, opened-ended activities designed during the project have been disseminated to large groups of practitioners through conference presentations.

Project 4 - Kent LEA

Supporting the Development of Cognitive and Emotional Well-being in Gifted and Talented Children.

This project was aimed at addressing the challenging task of creating the right conditions for optimising learning for very able children. The project's central idea was to construct a framework for observing children's involvement in tasks. Children's own interests and learning style were taken into account. Parents were invited to work in partnership with teachers. Teacher researchers described their surprise in finding talents and individual learning styles of children hitherto unnoticed . The rich information base helped with planning and setting appropriate challenges for the children.

Professional development materials and resources, which were designed during this project, are being widely used in the LEA and experience of the project team was shared with groups of practitioners at several conferences**.**

Project 5 - Rotherham LEA

‘Beyond The Hardest Shelf’ – Supporting and Challenging Young Children of Exceptional Ability through Participation in a Weekly Enrichment Cluster

Many teachers feel that it is not always possible to meet the needs of the exceptionally gifted younger children within the classroom. One of the practical difficulties is that the number of exceptionally gifted children within one school is very small when it comes to organizing enrichment activities. The aim of this project was to set up weekly enrichment clusters for these children drawing the exceptionally able from different schools.

The enrichment cluster seminars offered children opportunities for in-depth group and individual enquiries, creative productions, practical tasks such as designing towers and bridges, and producing and presenting PowerPoint presentations.

This project highlighted some useful issues. First, teachers’ assessments of giftedness seemed to be accurate in that the children who were selected for the clusters were capable of being engaged in cognitive challenges of a high order. Working with children of similar ability raised the tone of the processes and products.

Project 6 – Pilgrims’ Way School, Southwark LEA

Mini Enrichment Projects as means of combating underachievement in an inner-city area.

The challenge for the practitioners who undertook this project was the identification of gifted and talented children in an inner-city school within an area of relative social deprivation. The project team developed a number of cross-curricular mini projects on themes which were motivating for the children and set up a framework for observing children working on these projects – often from simple starting points.

The findings included a sharpening of teachers’ skills of observation and an enhanced understanding of levels of challenge which can be achieved through appropriate questioning.

Observation of children working on activities provided an effective way of identification. Emerging giftedness was detected in children who are often reticent due to language difficulties or low self-esteem. An encouraging set of outcomes was in evidence by the end of the project.

Project 7 - Dorset LEA

Developing Gifted and Talented Pupils' Creative Thinking Skills.

The aim of this project was to develop children's Creative Thinking Skills. The project team developed cross-curricular tasks with potential for creative thinking. Being a rural authority with very small schools made this project address a particular challenge in terms of teachers' from different schools not being able to meet and discuss the project as frequently as they wished, but this difficulty had not affected the high quality of the research carried out. The project outcomes demonstrated a very pleasing set of findings. Parents were invited to take an active role in the *learning journeys* of both the teachers and children.

The project team found that whole class interventions raised expectations of both children and teachers. *'A rising tide lift all ships'* principle was in evidence. Lifting restricted time allocations to allow children to follow their individual interests and learning styles was one of the effective strategies employed in this project. Positive outcomes from the project were cited as enhanced listening skills and ability to work in teams. A climate of problem-solving and the acceptance of , *'not always getting the right answer is OK'* were also evident. Some gender differences in tackling the tasks were also found.

Project 8 - Sussex LEA

A Study of Transition through a Child Centred Curriculum with particular reference to Gifted and Talented Children.

The twin themes focused in the project were the importance of ensuring smooth transition for gifted and talented children from Reception to Year 1 and the creation of flexible conditions for talent development. Parental involvement and feedback featured strongly in this project.

The project team's recommendations included the need for giving time for children to think and create, and the requirement from the teacher to encourage children's personal interests and learning styles. 'Personal Learning Journals' played an important part of this project. The conditions for talent development were highlighted as problem solving, creativity, independent learning and engagement. Issues of transition were addressed.

Project 9 - Hillingdon LEA

The Development of Mathematical Activities (cross-curricular) for Gifted and Talented Children with a focus on open-ended themes and enquiry.

Developing the mathematical promise of younger children was the challenge set by the researchers for themselves in this project. Whole-class teaching situations following the National Strategies did not always offer opportunities for children to be engaged in open-ended mathematical tasks and demonstrate attributes of mathematical giftedness. Activities were developed which would address this issue.

The research team developed a number of cross-curricular themes with built-in mathematical challenges. The open-ended, investigative approach offered through the activities enabled children to demonstrate their special strengths both in mathematical content and process. Teachers considered this project as a rich professional development opportunity. Cross-curricular themes on motivating contexts – Picnics and Sports, for example, are being published by the teacher researchers. This project was particularly useful for identifying mathematical talent of children with very little command of the English language**.**

Project 10 - Hounslow LEA

Mini Enrichment Projects to Identify Gifted and Talented hearing Impaired and EAL pupils who are beginners in English

The purpose of this project was to explore effective strategies for identifying gifted and talented children who are hearing impaired and those for whom English is an additional language. The project team designed mini enrichment projects with curriculum links. The activities were devised in such a way that the requirement for spoken language was kept to a minimum. Guidance was listed for identifying multiple intelligences of the children involved.

It was found that using specially designed activities, it was possible to identify gifted and talented children who are not able to speak fluently. Through encouragement and appropriate feedback the children demonstrated enhanced confidence, a higher level of concentration and the ability to sustain interest in activities for longer periods. There was noticeable impact also on the children's achievement.

Project 11- Richmond LEA

Investigating the Role of the Creative Arts in extending the gifted writers in Key Stage 1.

This project explored the role of Creative Arts in enriching pupils' use of vocabulary, descriptive language and the use of imagination to enhance the quality of work. It also studied how the stimulus obtained from Creative Arts could encourage children to select a variety of genres in writing. The ultimate aim was to identify ways of developing children's confidence as writers.

The project team presented the following aspects as useful strategies for practitioners:

- Use of outside speakers, such as expert artists, providing stimuli encouraged children to create original ideas in their writing.
- Being engaged in both 2-D and 3-D artwork enabled children to employ their individual learning styles and their particular intelligences in writing.
- Use of specialists in Art within the school was an effective strategy.
- Group work with 3-D productions encouraged children's flow of writing.

Project 12 - Suffolk LEA

Provision for Gifted and Talented Children at Foundation and Key Stage 1.

Using the principle that an enriched provision creates the right environment for effective identification, the project team designed 'rich' activities for teachers to use for identifying gifted and talented children. Opportunities for developing thinking skills and leading to personalize learning based on children's special interests and learning styles were provided through these activities. Parents were involved in the enrichment and identification process.

The project team found that theoretical and research models used in other countries provided a good starting framework for development of activities. Given appropriate opportunities, gifted and talented children engaged in in-depth enquiries and exploration of their personal interests leading to robust constructive models of learning. The discrepancy between what young gifted children may be able to show and what they know was highlighted in this project. "I like learning about" journals developed in this project steered children towards personalized learning. These journals also provided the means for children for sharing their special abilities and developing them with the support of their parents.

Project 13 - Warrington LEA

Developing Outdoor and Role Play materials to Foster Writing and Thinking Skills for Gifted and/or Talented Early Years Children.

The project team investigated ways in which teachers can develop outdoor and role play materials to encourage children's writing and thinking skills. Activities were specially designed with elements of analysis, problem-solving and encourage thinking skills. This project also sought to involve classroom-teaching assistants by providing them training and access to the activities.

The findings suggested that the open-ended activities with focused learning outcomes encouraged children to make links to prior learning and be involved in personalized learning. Children's multiple talents were more in evidence. Special efforts were made in order to encourage meta-cognitive skills.

Specific questions such as:

- Why do we need this?
- How will we do a good job of this?
- How can we take the ideas further?

And after a task:

- What were you thinking?
- Why did you think it would work?

Were encouraged. Using Dictaphones and tape-recorders, evidence of children's development of analytical and creative thinking skills was collected.

Project 14 - York LEA

The Identification of Gifted and Talented Children in Music at KS1

Identifying exceptional talent in music alongside the development of musical abilities of all children in Year 2 of an Infant school was the purpose of this project. The LEA adviser worked with two class teachers to develop a set of activities, which are designed to assess talent in music. By working alongside two teachers – one a music specialist and the other a non-specialist – the activities designed supported children to develop musical knowledge and skills and encouraged engagement. Professional development of practitioners ran alongside task development.

The project findings included:

- children demonstrating developing ability in steady pulse, simple rhythm pattern, singing and playing in tune.
- children practising music in their own time.

- identification of exceptional talent in music in a small number of children.
- a general improvement in children's overall concentration, collaboration and thinking skills in all lessons.
- an enhanced level of performance in the National Tests.

5. Impact of the projects on our understanding of gifted and talented education at KS1

The findings of the fourteen research projects enrich and extend the knowledge base and understanding of gifted and talented education in Foundation and Key Stage 1 settings in England and Wales. Each project was designed to address the local schools' and LEA needs within the context of a rapidly developing national agenda for gifted and talented education. Hence, some projects focused more on approaches to identifying young gifted and talented learners whilst others took curriculum provision as their main focus.

Some projects were subject specific (music, mathematics and writing) whilst others explored cross-curricular and thematic approaches to provision. On the other hand, for some of the research projects, the individual needs of some learners predominated, for example, the musically talented visually impaired pupil or, the hearing impaired gifted and talented children or, children with English as an Additional Language or, the behaviourally challenging gifted and talented children. And yet again, for some projects, the broader themes of transition, relationships with parents or the wider community provided the key focus. Despite the rich diversity of the projects, it is possible to discern a range of common themes and shared experiences in the research findings that can, in turn, be mapped onto the personalized education components:

A. Effective Teaching and Learning Strategies
B. Enabling Curriculum Entitlement and Choice
C. Assessment for Learning
D. School Organization
E. Strong Partnership beyond the School

The fourteen elements of the National Institutional Quality Standards for Gifted and Talented Education (being trialled by the DfES gifted and talented education unit) fit within the personalized education agenda hence the research projects can provide illustrative material for aspects of both frameworks as follows:

A Effective Teaching and Learning Strategies

Quality Standard 1: Identification

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. Staff involved in the research projects gained vital professional development in defining and identifying gifted and talented learners.
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 standardized assessment data where appropriate (e.g.PIPS), the identification processes fell into three broad categories:

i. structured or semi-structured classroom observations
ii. structured or semi-structured interviews (conferences) or questionnaires for parents
iii. notes from children's conversations or conversations with children or semi-structured evaluations by children

Some LEAs, for example, Devon, had already developed a semi-structured observation schedule for identifying young, gifted and talented children based on the six areas of the Foundation Stage Curriculum. Other LEAs devised a series of activities, games and assessment materials focusing on one subject area, for example, York considered the identification of musically talented Yr 2 children including an identification chart already developed by Portsmouth Music Service.

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 within East Kent used the Leuven Scales (see case study) for 'well being' and 'involvement' to screen their classes in order to identify 'intriguing' children and possible underachieving gifted and talented learners.

Similarly, the Suffolk project utilized the theoretical perspectives of Gardner's (1993) multiple intelligences, Renzulli's (1994) Three Ring Model and the Nebraska 'Starry Night' 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.

Perspectives from established research also provided the key to exploring identification systems for multiple exceptionality in the Hounslow LA project. The 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 (1993) multiple intelligences were used to provide learning experiences in the form of enrichment projects that were not only focused on the development of linguistic competence. Both schools evolved 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 trialed 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
- large scale
- no space or time constraints

The Hounslow project illustrates the importance of the inter-relationship between effective classroom provision and the identification of gifted and talented learners.

As the projects unfolded the teachers gained confidence in their ability to use and to analyze the evidence from particular identification approaches. At the same time, their judgements and assessments of gifted and talented learners became more refined and rigorous. Indeed, the Richmond LA project reported that:

For the first part of the study in June 2004, twelve of the most able writers in year 2 were selected. For the main part of the study from October 2004 to January 2005 six children were chosen from year 1 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 doing PIPS in 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!

It is evident that professional understanding of the identification of gifted and talented learners was deepened as a result of sustained involvement in the action research process.

Quality Standard 2: Effective provision in the classroom

As the Hounslow project demonstrated, effective classroom provision enhances the opportunities for identifying gifted and talented children. At the same time, many of the research projects reported that planning appropriate curriculum provision to challenge and extend the more able learners raised the expectations and achievements 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 *'the children's enthusiasm is infectious and promotes passionate teaching!'*

Three significant changes to curriculum planning emerged from the project reports. The teachers planning included addressing one or more of the following:

i. the integration of specific skills training such as ‘thinking skills, mind mapping, brain gym, TASC (Thinking Actively in a Social Context) and creative thinking;
ii. planning open-ended activities or enquiries which increased children’s opportunities for problem-solving, creativity and higher order skills;
iii. following the children’s special interests as central to curriculum development.

Effective curriculum provision often necessitated changes to the normal timetable of events. For example, in Wandsworth, 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, Dorset and Hillingdon project teachers integrated a programme of special workshop or activity days into their timetables. 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 (this model was fine-tuned at a later stage and integrated into the daily mathematics lesson within the classroom setting). Two Suffolk schools also gave curriculum time to developing individual children’s special interests via individual ‘I like learning learning about journals. The journals provided a shared home-school focus for developing personalised learning journeys.

The Southwark research group devised mini enrichment projects designed to be cross-curricular and to cater for different learning styles. They aimed to encourage the use of higher-order thinking skills (to evaluate, explain, justify, analyze), problem-solving (to solve, reason, decide) and creativity (to design, invent, compose, perform, draw, write). 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. The mini enrichment projects were based around familiar children’s stories e.g. ‘The Gingerbread Man’, ‘Little Mouse and the Big Red Apple’ and ‘Rumble in the Jungle’. Children’s literature also provided the springboard for planning thematically in the Dorset, Warrington and Richmond research.

Attention to resourcing and designing 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* 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’). In this way, children were supported in following their individual learning pathways.

Giving children ownership of the learning activities and the time to follow through their own ideas was a key theme reiterated across many of the projects. Removing time constraints enables 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 headteacher was challenged by the children's comment in a discussion about thinking that 'There's more to wonder about at home'. This led her to wonder 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!

Changes to curriculum planning also provided teachers and Teaching Assistants with the opportunities to extend their teaching repertoire. Dorset teachers reported that peer support allowed staff to be non-participant observers in both their own and other schools thereby generating professional dialogue and discussion. Peer support also created opportunities for teachers to ask children in depth questions about their thinking behind their work.

Devon teachers found that they became more skilled at 'reproposing' children's thinking to them in order to challenge and develop their conceptual understanding. They also found that they learnt more about the children's views of themselves as learners:

'I don't actually know how clever I am and when I do it surprises me! (Emily age 6)

Warrington developed a questioning grid to support staff in their interactions with children and to promote metacognition. The grid increased the confidence and levels of expertise for Teaching Assistants in relation to extending children's thinking by probing their understanding. Providing a structured programme of support also enabled a non-specialist teacher in York LA to teach music confidently.

B Enabling Curriculum Entitlement and Choice

Quality Standard 4: Enabling curriculum entitlement and choice

As reported in the previous section, 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 was 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 an/or the whole class.

Schools in Suffolk, Warrington and Hillingdon scaffolded the children's choices by using the TASC (Thinking Actively in a Social context) framework (Wallace 2002). The TASC approach supports choice for all learners in the classroom (including the teacher as 'senior learner'), but the emphasis TASC gives to the importance of social context in learning whereby 'learning to work with others is a major factor in emotional and social development', can be particularly apt for individual gifted and talented learners. For example, in one Suffolk school, one gifted and talented Reception child was identified as demonstrating elements of 'psychomotor over excitabilities' as evidenced in his rapid speech, pressure for action, restlessness, impulsive actions and competitiveness. Using the TASC wheel for planning activities enabled the teacher to engage this able learner's energy via the development of his problem solving skills and, with the encouragement of sensitive adult scaffolding, the development of his collaborative and team working skills.

Hence the choice of framework for structuring children's choices and opportunities needs to 'best fit' the identified needs of individual gifted and talented children. Some of the research schools chose to enable children to make choices and access the curriculum more readily by using other well established thinking skills and problem solving training. Developing one or more element such as looking at the 'bigger picture', encouraging 'good talkers', developing listening, questioning and evaluative skills provided the children with the essential prerequisites to pursue their own learning pathways and to achieve at an appropriate level within the whole class setting.

Enabling curriculum entitlement was also evident in a number of the projects inviting specialists to work with the children. 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, small holders and 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.

Collaborative planning amongst staff both within and across school settings and age phases featured strongly in all of the projects. Rotherham LA chose to explore a weekly enrichment afternoon for a cluster group of schools. Spurred on by the needs of one Year 1 able and behaviourally challenging child, a group of 20 similarly exceptionally able children was sought so that they could meet together once a week to experience an enriched curriculum. During this time their individual learning styles and curricular interests would be supported, as well as helping them to overcome any socialization or task engagement difficulties that they might be experiencing.

Underlying the project was an earnestly held belief 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. Added to this, parents of young gifted and talented children often feel unable to cope and lack confidence in their ability to satisfy their child's specific needs, so they need support.

There was never an intention to 'hot house' these pupils, but a belief that bringing them together in an enrichment cluster would offer them challenges and 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 with 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".* Gifted and talented children like this should be offered a stimulating and challenging curriculum that encourages them to reach their full potential.

C Assessment for Learning

Quality Standard 5: Assessment for Learning

Assessment for learning was brought into sharp focus throughout all of the research projects. 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 personalised learning pathways and pupils sharing responsibility for designing learning tasks

Each of the research project groups chose differing tools to help structure their initial identification and assessment work. Kent LEA's work with the Leuven scales of well being and involvement proved fruitful in providing a detailed set of data which was then used to make changes to classroom provision. For example, data from one underachieving child highlighted the following:

- Low levels of well-being on the Leuven scale.
- Low levels of involvement on the Leuven scale although this varied across activities as he could concentrate for long periods on activities he liked e.g. he enjoyed listening to stories and concentrated well during these.
- Challenging behaviour – more interested in self than others.
- He could speak expressively on a range of subjects.
- He was inquisitive – especially in relation to insects – and was quick to notice changes to his environment.
- He blocked out his paintings although these and his drawings were detailed.
- He showed originality when making models.
- He became unhappy if he was given insufficient time to finish an activity.

The assessment data was used to effect changes to the classroom provision, for example, the classroom environment was enriched to provide interest tables and interactive displays. Clear routines were established and boundaries for behaviour set. The individual child was given support to express his emotions and talk about his feelings. He was allowed time to engage in the activities he was interested in and to speak to an audience about these, or to tell them stories, e.g. after he said “I’ve got a friend who is an eagle “Can I tell you the story?” In addition to this, the story was ‘scribed’ for him by his teacher enabling him to concentrate on the compositional aspect of story telling which was his strength.

Subsequent assessment evidence indicated that the impact of the changes to the learning environment and the curriculum was positive for this learner:

- His levels of involvement were increased and he was more curious about his environment.
- His sense of well-being grew – he enjoyed the success he achieved in speaking in front of an audience.
- His ability to compose stories far exceeded that of his peers.
- He had greater interest in a wider range of class activities.
- He set himself challenges and followed up ideas from teacher directed work during child initiated sessions. .
- His behaviour improved and he began to make friends.

York LA also utilised a structured approach to assessment for learning with a specific subject focus on music. In so doing, York exemplified how the differing levels of expertise and experience from within the research team were drawn on to raise the quality of teaching and learning.

At the outset, the music advisor in collaboration with the school’s music co-ordinator, identified internationally regarded teaching materials that would:

- develop listening skills
- improve the quality and accuracy of the singing voice
- develop the playing of pitched percussion instruments.

A structured music programme of work for whole class use, covering three terms, was devised and implemented with two Year 2 classes (40 children), including 4 children on the special needs register and one child with specific medical needs. The programme was led by the school’s music co-ordinator, working alongside a less experienced colleague who was not a music specialist. Regular opportunities outside timetabled lessons were also provided for children’s independent practice of playing of tunes introduced in the taught sessions.

In parallel to the development of the teaching materials, the music adviser researched appropriate materials to support teacher assessment of pupils across a range of

musical skills: pulse & rhythm; awareness of pitch; tonality; harmony. The assessment materials were trialed in Phase 1 of the research project and their use developed by the teacher researchers alongside the ongoing teaching programme in the main phase of the project. Teachers recorded their assessment of children's skills and abilities using a whole class 'tracker' which focuses on different aspects of music and is updated regularly. Giving the children opportunity to rehearse and perform in front of an audience provided additional teacher assessment time. An opportunity for pupil self-assessment was also provided. Children evaluated how well they could perform a known melody by ear and how well they could perform a song that had been taught. They recorded how often they chose to practice in their own time. Teacher assessment was aided by the use of written aural tests, digital photography and video clips.

Quality Standard 6: Transfer and transition

Two research schools in East Sussex investigated transition and transfer between the Foundation Stage and Year 1 in some detail. Data collected from parents showed that parents can begin to think about the children changing classes as early as January in the Reception year Staff from both schools began by collecting a range of information:

- Questionnaires were used with both children and parents to explore children's preferred learning styles;

- Questionnaires were used with both children and parents to review the transition process between Reception and Year 1;

- Both staff teams met to discuss children's learning needs in order for the Yr 1 receiving teachers to have quality information about the children coming to them;

- Four gifted and talented children were identified by using the Foundation Stage Profile data, observations of learning and conversations with parents.

Children's voices were an important part of the data gathering exercise. The children's responses also indicated that they really enjoyed being active and physical, that they learn through hands-on experience and they love books and being seen as independent learners. These findings were used to plan changes to the organisation of the learning environment as well as developing the curriculum.

A two week "stepping on" transition programme - with learning based on the themes of respect for self, respect for each other and respect for the new and the shared environment - was devised to support children and families during the first weeks of the new Autumn Term in Year 1. A holistic approach to planning the curriculum was adopted based on the Foundation Curriculum six areas of learning and addressing and children's own interests. This planning approach became known as "learning journeys".

The notion of a 'learning journey' underpinned the learning journals developed as transition documents between the Nursery and First School researching in Suffolk. Gifted and talented children's learning journeys were recorded in a journal using

photographs, transcripts, and graphic representations. The journal provided a focus for professional dialogue between the two teachers and helped to identify the special interests of individual children which could be used as a basis for planning curriculum activities.

D School/College organisation

Quality Standard 7: Leadership
Quality Standard 8: Policy
Quality Standard 9: School/College ethos and pastoral care
Quality Standard 10: Staff development
Quality Standard 11: Resources
Quaility Standard 12: Monitoring and Evaluation

It is evident from the examples in the preceding sections of this summary that elements of Quality Standards 7, 8, 9, 10, 11 and 12 were inevitably embedded in the action research projects. For example, none of the projects would have been possible without the headteachers and LAs acting as 'active champions' of gifted and talented provision and supporting the classroom teachers involved in the research. All of the projects included professional development in gifted and talented education for the staff involved and all the schools revised policies in the light of the experiences and evidence gathered during the research.

Similarly, material and human resources were reviewed to enable the most appropriate provision to be developed including 'innovative and experimental practice' identified as 'exemplary' within Quality Standard 11. Teachers' expectations of children's potential were undoubtedly raised and children's achievements across whole classes, as well as those of the identified gifted and talented children, were also heightened.

E Strong partnerships beyond the school

Quality Standard 13: Engaging with the community, families and beyond

Networking and utilising expertise from the wider community has already been illustrated in section B of this summary with examples of experts working with children to enhance curriculum provision. Of course, specialist inputs can often involve contributions from parents at a number of different levels. For example, one of the identified gifted and talented children in the Devon project (age 6) expressed his interest in cross sections on several occasions across 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 corner stone 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.

Parents can become aware of the school's policy for gifted and talented education in a variety of ways. For example, by becoming engaged in the identification process for gifted and talented children. Again, the research projects exemplifed a variety of equally valid approaches to this process. In the initial stages of the Dorset research (enhancing provision for creative thinking in small schools) a 'Thinking Kit' of six problem solving activities to be completed at home was devised. The kit included opportunities for parents to record their observations of their children's enjoyment of the activities and a further questionnaire gathered a broader range of data on parents' perceptions. Parental questionnaires featured in a number of the research projects with varying degrees of success hence their usefulness as a tool with parents needs careful consideration as exemplified by Suffolk's experience.

The Suffolk project focused 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. Staff 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 staff 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 that they had been given.

The staff wanted the modified questionnaire to be used as the basis for the first parent/teacher consultation evening in order to show that parents' responses and observations were valued. At the meeting each question was clarified and examples given. The parents were asked to complete a simple observation of their child and a proforma was provided for this. It was felt that the observation would give them the information to help them complete the questionnaire. Staff wanted to use the observations to gain the whole picture of the child and inform them about how to enrich and extend the children's individual gifts.

Thirteen out of a possible fourteen parents in the reception class brought the completed questionnaire with them to their child's first Foundation Stage Profile meeting. Parents commented that it had encouraged them to take a step back in order to consider what their child's play was showing them in respect of their interests and understanding. They were able to talk about how behaviours exhibited by the child and patterns in their child's play had helped them to identify their special interests and thereby help them to provide more appropriate activities in the home setting. Staff at the Infant School then

shared with parents the children's response from a previously held child conferencing session alongside observations that they had made on the child. This helped all adults to decide upon the "next steps" for the child's development. Parents appeared confident when talking to staff about the ways in which their child was smart.

Further examples of mutually beneficial collaborative provision between nursery and primary and between primary schools has been illustrated in previous sections of this summary. However two further aspects of collaboration were evident in the research undertaken by Bromley LA and Richmond LA.

In Bromley, seven very able Year 12 students acted as mathematics mentors for nine KS1 mentees from across five primary schools. The mentors were selected by the deputy head of the 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 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. His mentor had taught him to use basic mathematical equipment such as a protractor and he could also identify and interpret various methods of data presentation e.g. pie charts, tally charts and bar graphs.

Richmond LA's research focused on the role of the creative arts in extending gifted and talented writers and provides another example of cross phase collaboration. The research began by tapping into the creative arts expertise of secondary colleagues in the link Community College. The Drama department at the College was asked by the infant school to devise a dance workshop for a group of Year 2 children based on shipwreck theme linked to 'Twelfth Night' which the Yr2 children had seen at The Orange Tree Theatre in Richmond. The workshop incorporated learning some simple dance moves and a performance to a tape of sound effects which included the sounds of the waves, the ship's timbers creaking, the crash of the mast breaking and the storm building. The teacher involved had planned the session with a group of her year 9 students who acted as leaders for the younger children.

There were mutual benefits in this collaborative venture. The Yr 2 children came away from the workshop feeling they had done something very special whilst the secondary drama teacher was able to motivate her students in preparing ideas for younger pupils and working to earlier key stage targets. The year nine students were good role models for the year 2 children particularly as they included two boys. This ensured full participation regardless of gender.

Overall, the case study materials provided by the fourteen action research projects have provided a rich source of exemplification material for the Quality Standards. 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 from LAs and the University sector.

Moreover, and most importantly, all of the projects provide evidence of differing approaches to providing high quality educational experiences (learning journeys) that nurture the potential of young, gifted and talented learners.

6. Professional development

Supporting KS1 practitioners to improve their practice has been at the heart of this project. This has been achieved at several levels.

- Teachers with no previous experience of research became action researchers and developed an enhanced facility for evaluating their own practice using research tools and producing evidence-based outcomes for themselves and their colleagues.
- All the research partners have demonstrated increasing interest in aspects of provision for gifted and pupils and were proud of being able to contribute to a research base for Key Stage 1.
- All the research partners received a professional development programme from the mentors at Brunel University for carrying out their work with increased understanding of issues. Rather than looking for *tips* or *simple recipes* for practice, the teacher researchers were involved in constructing their own theories of what makes effective provision for gifted and talented children.
- All the partners have set up networks within their schools or /and LEAs, which should impact on the professional practice of a significant number of teachers and other practitioners.

7. Future research directions

- There is a serious shortage of expertise in the provision for gifted younger children in the U.K. and in other countries. The knowledge base generated in this project could form the basis for an international collaboration effort on nurturing talent in the Early Years of schooling.

- Any professional development initiative in gifted education for KS1 teachers could usefully adopt an Action Research model which enables practitioners to engage in investigating complex issues.

- Parental involvement and training for classroom assistants should enhance the nature of provision for gifted, younger children.

- The complex questions relating to the identification of giftedness with particular reference to ethnicity, gender and social class would offer fruitful investigations for research, as there is wider evidence that minority groups, girls and children from lower income families are under-represented in gifted cohorts (Van-Tassel Baska, 1998).

- Action Research sets out to generate knowledge by practitioners who undertake a professional development journey within their own contexts. Research with larger samples from a variety of socio-economic and geographical areas could inform policy makers. This is particularly important, given the high profile of Early Years Education in the UK

8. References

Clark. B.(1997) *Growing up gifted*. NJ: Merril

DfES (2005) *Higher standards, better schools for all*. London: DfES

Gardner,H.(1993) *Multiple Intelligences : Theory into practice.* New York: Basic Books

Koshy, V.(2005) *Action research for improving practice*. London: Paul Chapman

Neihart, M., Reis, S. M., Robinson, N. M., & Moon, S. M. (2002). *The social and emotional development of gifted students: What do we know?* Waco, TX: Prufrock Press.

Renzulli, J. (1994) *Schools for Talent Development.* Connecticut: Creative Learning Press

Robinson, N. M. (2004). Effects of academic acceleration on the social-emotional status of gifted students. In N. Colangelo, S. G. Assouline, & M. U. M. Gross (Eds.). *A nation deceived: How schools hold back America's brightest students, Vol. 2* (pp. 59-67*).* Iowa City, IA: U. Iowa, Belin Blank Center.

Vygotsky, L.(1978) *Mind in society*. Cambridge: Harvard University Press

Van-Tassel Baska, J. (1998) 'Disadvantaged Learners with Talent' and 'Girls of promise' in *Excellence in Educating Gifted and Talented Learners*. Colorado: Love publishing group

Wallace, B.(2002) teaching Thinking Skills Across the Early years. London: David Fulton

Appendix 1 - Case studies of Action Research projects

1. A Whole School Approach to Identifying and Providing for Gifted and Talented Children in Key Stage 1

Contact person: Nicola Patton email address: nicolapatton@hotmail.com
Others involved: John Grove (head teacher) and Kathryn Jessett

Background context

Belleville Primary school in the London Borough of Wandsworth is a three-form entry primary school situated in an inner-city area. A significant number of children come from minority ethnic backgrounds, with 31% of the pupils having a language other than English spoken at home. The school is the largest in the LEA with more than 500 children on roll. The staff are committed to finding gifts and talents in all children and strive to create an ethos in which developing the self-esteem of pupils through recognition of their various gifts and talents is seen as important, because of a strongly held belief that there is a vital link between self-belief and raising attainment. Accordingly, this project sets out to explore whether the recognition of gifts and talents, through a rewards and systematic record-keeping system, will lead to enriched curriculum provision.

It will have been successful if improvements in curriculum planning result in increased opportunities for problem solving, creativity and higher order thinking skills, as shown through analyses of children's learning outcomes. Changes will be supported through high quality staff training informed by recognised experts and the sharing of good classroom practice. Consequently, every child in the school will be given the opportunity to develop skills that will reveal their gifts and talents. In particular attention will be given to:

- Developing children's 'thinking skills' through enriched curriculum planning.
- Raising self-esteem by recognising children's special interests, skills and abilities.
- Raising the profile of the project teachers so they can encourage other members of staff to adopt similar practices.

Aim

To develop an approach to teaching and learning which maximises the number of id identified gifted and talented Key Stage 1 pupils and to respond to their educational needs through the provision of an enriched curriculum.

Dimensions of Study

The project started out initially in a Year One and a Year Two class (with approximately 55 children involved). Then it was extended throughout the school as part of a review of teaching and learning policy on how to provide enriched curriculum experiences for gifted and talented pupils.

Influences on the Project

- Developing 'thinking skills' through being *'Good talkers'* (based on the work of Robert Fisher), a learning approach designed to encourage discussion, listening skills, questioning skills, problem solving, evaluation and metacognition as part of a 'community of enquiry'
- Sessions on mind-mapping and accelerated learning techniques including seeing the 'Big Picture'
- Valsa Koshy (2002) 'Teaching Gifted Children 4-7: A Guide for Teachers'. London: David Fulton

Research in Action

What took place

There were two phases to the project. These were:

- Action taken by the two key teachers in their own classes
- Whole school developments

Action taken by the two key teachers in their own classes

Getting Started

In preparation for the project the two key class teachers were given the opportunity to develop their own knowledge base by reading and watching videos, hearing guest speakers, attending courses and conferences as well as visiting other schools. Parents of the children in their classes were sent questionnaires in which they were asked to identify their child's special interests or strengths. The children were interviewed to see if they agreed. Then, an "interest time" was built into each week's timetable so that a range of gifts and talents could be celebrated. This necessitated changes within the classroom which were as follows:

- Thinking lessons' were introduced to teach skills of co-operation, speaking and listening – including reasoning skills, 'brain gym', 'mind-mapping' and creative thinking.
- Emphasis was placed on children establishing questions that they wanted answered at the outset of each new topic of work or before pupil-led presentations

- ‘Mind-mapping’ was explored as an alternative to recording ideas in flowing prose and as a means of helping children to see the ‘bigger picture’ i.e. the context in which they were working.

Examples of Activities

- An odd-one-out activity to facilitate the teaching of reasoning skills. In it, children look at pictures of 3 animals (e.g. a cat, a panda and a dolphin) and try to decide which is the odd one out. There is no right or wrong answer. (This activity also helps children to learn to take turns.)
- Prioritising statements linked with topical issues e.g. ‘appropriate behaviour in the playground’.
- Asking questions derived from looking at famous paintings or listening to other children’s special interest talks.
- At the end of topics giving children the opportunity to compile ‘Fascinating Facts’, ‘Puzzles’ or ‘Quizzes’.
- Promoting creative thinking through questioning e.g. ‘*How can we re- use this object*….’ as part of an ecology topic; questions like – ‘*what if all the children in our class woke up tomorrow morning and found they were one metre taller?’;’think of all the things you could do if you had ten arms’*; or ‘*design a new creature, give it a name and tell me what it likes to do’.*
- Using role-play and drama to invent new characters and events in stories as part of literacy lessons.
- Producing posters or presentations at the end of topics: sometimes these can be shared with the other classes.

After a trial period in these two classes the project was extended throughout the school. To get it going, staff benefited from INSET on the various teaching techniques involved. Drawing on this and insights gained by the two key project teachers, the following practices were adopted, in addition to those outlined above:

- Medium term curriculum plans were widened to include more and deeper questioning by the teacher, with readily available lesson prompts for questions being seen as essential.
- Examples of children’s work, with comments and feedback included, were analysed to assess whether there were improvements in pupils’ ‘thinking skills’. These were backed up with comments from parents, teachers and through classroom observations.

The whole school review of provision for gifted and talented children led to a thorough revision of the school’s teaching and learning policy and, as a result, a new policy was put in place.

Lessons learnt - Findings

- The profile of 'gifted and talented' was raised across the school and early recognition and intervention became a reality.
- The 'thinking skills' programme developed children's higher levels of thinking, questioning ability and imagination and, in particular, enabled those with exceptional ability to show originality.
- The programme provided opportunities for children to demonstrate and develop their individual gifts and talents and this ensured levels of motivation remained high, with many of the children following up topics that interested them at home.
- Providing a secure learning environment through a 'community of enquiry' in which children learnt to agree and disagree with each other encouraged them to be open to think for themselves and to put forward ideas in the knowledge that their ideas were valued.
- There was a marked improvement in questioning skills by the end of the year because the children were being given creative activities that stimulated them and teachers were more aware that open-ended questions needed to be asked.
- The programme provided opportunities for children to use different intelligences and learning styles and this assisted in identifying gifted and talented pupils.
- When children were involved in presentations. reflection on what they had learned and how they had learned it helped to deepen their understanding.

Further research

Some issues remain for future consideration. How to:

- Provide for talents that reflect an even wider range of intelligences e.g. in design, music, physical education, art.
- Ensure that children's special interests, achievements and individual learning styles are included in their reports and that these are shared with their next teacher.

In the long term, it is intended that a register of the gifts and talents of every child will be made available at the end of their primary school education to ensure that hidden talents do not stay unlocked.

Useful publications

Valsa Koshy (2002) 'Teaching Gifted Children 4-7: A Guide for Teachers'. London: David Fulton

2. Mentoring Exceptionally Able Pupils at Key Stage 1

Contact person: Sue Mordecai (LEA adviser) e-mail address: sue.mordecai@bromley.gov.uk

Other key personnel: Christine Lloyd (Deputy head teacher of Newstead Wood School for Girls)

Lead staff from the participating primary schools: Farnborough Primary, Hayes Primary, Parish C of E Primary, Perry Hall Primary and Tubbenden Infant School

Background context

Bromley Education authority has a strong record in supporting the education of gifted and talented pupils, with successful provision firmly established in its mainstream schools. The mentoring strand of the Government's 'Excellence in Cities' (EiC) initiative has been shown to have a positive impact on the attitudes and self-esteem of secondary pupils. Therefore, despite not being an EiC LEA, Bromley was keen to introduce a similar scheme. This was made possible via this project that sets out to evaluate the effectiveness of mentoring for exceptionally able children in Key Stage 1: the intention being to offer face-to-face mentoring for Key Stage 1 pupils using higher ability mentors from Year 12 of a selective 11-18 secondary school for girls. The Key Stage 1 exceptionally able pupils will be chosen from nearby infant/primary schools, all with good track records in identifying higher ability pupils. Those selected will come from smaller primary schools, as it is sometimes in these that gifted and talented children feel themselves to be 'isolated learners'. The subject focus will be mathematics.

Aims

The project aims to assess whether:

- a mentoring programme is effective in terms of enhancing Key Stage 1 children's confidence, self-esteem, language skills, conceptual understanding and higher order thinking skills through a programme of learning experiences they find enjoyable.
- teachers' expectations of Key Stage 1 pupils is raised as a result of participation in this project.
- very able Year 12 students (17-18 years old)develop their personal and social skills and gain a deeper understanding of how children learn, whilst recognizing the importance of giving service to the community.

Dimensions of Study

There were seven mentors from the secondary school and nine mentees from five primary schools who met together for an hour each week over the course of an academic year.

Influences on the Project

- Research into the effects of using older mentors for gifted students (Rogers, 1998) showing a positive impact on the cognitive, social development & self-esteem of the younger pupils involved.
- The work of Van Tassel-Baska (2001) who suggests that mentors can act as catalysts for shaping the hearts and minds of exceptionally able pupils.
- The significance of scaffolding by adults and the importance of adult interaction in identifying the Zone of Proximal Development (Vygotsky 1978).

Research in Action

Getting started

Mentors were selected by the deputy head of the 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. To gain data for evaluation purposes, the mentors were asked to provide evidence of the following:

- short, but probing, interviews with children during which the mentees were asked to verbalise their feelings, share their perceptions of what the mentors were doing with them, and to assess whether they were helping them, and how
- e.g. one child said that his mentor made sure he used correct terminology, so 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) and in using more complex terms such as 'obtuse' and 'acute' regarding angles. His mentor had taught him to use basic mathematical equipment such as a protractor and he could also identify and interpret various methods of data presentation e.g. pie charts, tally charts and bar graphs.
- 'Magic Moments' when mentees made comments or produced unexpected outcomes
- e.g. one 6-year old said that his mentor had helped him to realise '*that division is like taking away lots of sets of a particular number from the total'.*
- samples of activities with lesson plans and teachers' comments about their effectiveness
- examples of questioning styles on tape
- samples of written work from children and photographic evidence whenever possible
- any significant changes in the classroom or school as reported by teachers/ classroom assistants
- any comments from parents.

Outcomes for Mentees

- Greater understanding of mathematics in terms of subject knowledge and understanding e.g. from an initial awareness that mathematics was about numbers, addition and subtraction to 'numbers and how to use them', 'sums, problem solving, angles and graphs', 'tessellations & co-ordinates, squares & cube numbers and algebra' (with one pupil expressing an interest in moving on to trigonometry)
- Improved subject specific skills e.g. understanding of common operations; faster multiplying of numbers; easier recognising of patterns within numbers
- Development of higher order thinking skills – '*because it helps you and gets your brain going'*, better at handling logic and spatial puzzles, enhanced problem solving abilities with increased awareness that there is sometimes more than one solution to a particular problem
- Development of language skills – able to communicate confidently and ask questions on any topic, able to express themselves more fluently when talking about or explaining mathematical solutions as a result of using precise mathematical vocabulary
- Increased confidence and self-esteem – all thought they were very good at mathematics, they were not fazed by difficult problems.

Outcomes for Mentors

These are still subject to on-going evaluation, but, in brief, the mentors showed increased understanding of how young children learn; enhanced social skills; increased levels of self-confidence; greater readiness to accept responsibility for others, as well as deeper understanding of underlying mathematical principles.

Lessons learnt - Findings

- The careful selection of mentors proved to be a strength of the project and was crucial to its success
- The training offered by the deputy head of the secondary school was instrumental in ensuring that the scheme was thought worthwhile by all involved.
- Meticulous pre-planning was essential, so it was important to make sufficient time available for this and other aspects of the project
- Mentees were selected by their own schools and, in the event, were all boys. (The mentoring has continued beyond the life of the project and the LEA Adviser has especially targeted four exceptionally able Year 1 girls for support)
- Keeping the system simple and manageable was essential (initially, it was too ambitious).
- On-going support for mentors in the form of dialogue and the sharing of information with primary school head teachers and individual class teachers was critical to the success of the project, but proved difficult to achieve at times.

- Teachers' expectations of Key Stage 1 pupils were raised as a result of participation in the project; they became more aware of the high levels that could be achieved with additional mentoring support.
- There was s a good liaison between the schools and the parents who appreciated the extra support for their exceptionally able child.

Further research

Some issues still to be addressed. How to:

- extend the project to include on-line E-mentoring as part of an overall LEA mentoring programme that will offer support in other subjects and to other age groups within Key Stage 1.
- use specialist schools to broaden the range of subjects supported.

3. The Identification and Provision of Effective Teaching and Learning Strategies to Support Gifted and Talented Children in KS1 Classrooms

---

Contact person: Christine Mitchell, University of Exeter School of Education & Lifelong Learning

Email address: C.H.Mitchell@exeter.ac.uk

Phil Creek Devon Adviser for Gifted and Talented Ed
Poppy Emmanouilidou (research assistant)

Participating Schools**:** Jenny Perry, Andrea Dodge, Jo Heath St Leonard's Primary (formerly Central First School) Exeter;
Jenny Kinder, Caroline Moncad, Pat Dunkerley Blackawton Primary, Totnes;
Susan Freeman, Wanda Moffat, Appledore Primary;
Sam Spargo, The Grove Primary School, Totnes;
Penny Burnside, Rod Crook, Tipton St John Primary
Sandy Brown, Graham Wright, Woolacombe Primary.

Action Research Aims

- To determine to what extent the principles of the Reggio Emilia approach to early childhood education can be used to provide for exceptionally able children in Key Stage 1.
- To trial and evaluate teaching strategies based on collaboration, observation and documentation.
- To develop a programme of professional development for Key Stage 1 teachers based on the research findings.

Background context

An ever-present question in education is how to adapt teaching to take account of differences between learners. Many of the case studies emanating from the Government's 'Excellence in Cities' (DfEE 1999) initiative focus on the design of distinctive teaching programmes for gifted and talented children. These programmes often involve discrete provision and facilities for gifted and talented children such as summer schools, with 'celebrity' or expert input, educational visits, special interest clubs and on-line study centres. However, this project set out to identify effective classroom based inclusive teaching and learning strategies for Key Stage1 gifted and talented children. New approaches to delivering the Key Stage 1 and Foundation Stage Curriculum were considered with reference to the following practices of pre-school provision in Reggio Emilia, Italy:

- teachers' interventions should be underpinned by careful observation and documentation of children's interactions and conversations;
- curriculum planning should be fluid and emerge from observing children's interests and developmental needs;
- teachers, other 'experts' from the community, parents and children should collaborate to develop curriculum activities;
- children's ideas and thinking should be reproposed to them in order to develop their learning;
- care should be taken with the design of the learning environment both inside and outside the classroom – soft qualities such as light, colour, sound, micro-climate, need to be emphasised;
- learning resources need to be multi-sensory and provide children with opportunities to explore and represent their ideas in multiple media ('the hundred languages of children')

Research Schools

Six schools took part in the project with all but one, having two or more experienced teachers involved. 18 gifted and talented 4-7 year old children - as identified by their teachers – were the subjects of the research.

The teachers' research in action : what actually happened

The research teachers worked from Passow's (1985) premise that giftedness is really, *'potential giftedness, which denotes promise rather than fulfilment and probabilities rather than certainties about future accomplishments. How high these probabilities are in any given case depends on the match between a child's budding talents and the kinds of nurturance provided.'*
Hence, new approaches to delivering the Key Stage One National Curriculum in order to nurture gifted and talented children's potential were explored by utilising and adapting the principles of curriculum development underpinning both the Reggio Emilia approach and those for gifted education.

<u>Phase 1:</u>

Establishing a shared understanding of how to identify gifted and talented children

The nature and potential range of talents and giftedness within any classroom, and how to use different approaches to classroom observation to reveal this, provided an initial focus for discussion. This involved how to:
- complete structured observations using a variety of published materials to identify the potentially most able children (including an approach developed by Devon Curriculum Advice see appendix 1);
- develop semi-structured, informal interviews adapting a set of questions from Burden (2000) 'Myself As A Learner' scale to gain insights into the children's perceptions of themselves and their experiences of learning in the classroom;

- make notes of children's conversations in order to gain evidence of their interests and abilities to inform curriculum planning;

Each teacher chose the most appropriate approaches for her or his particular setting – using several approaches helped to build the fullest picture possible of each child. The research teachers then met to evaluate progress and to share issues arising from their observations, with each teacher providing a pen portrait of the children they had identified as gifted or talented. This process of meeting and discussing with teachers from a manageable number of other schools proved to be a key factor in moderating and measuring progress.

Phase 2:

Flexible curriculum provision for gifted and talented children

The next phase of the research was to explore the extent to which the Reggio approach to curriculum provision could be used in Key Stage One and Foundation classrooms and whether adopting aspects of the Reggio way of working would address the particular needs of gifted and talented children**.** Initially the teachers had some understandable concerns about identifying a curriculum theme from the children's interests as this ran counter to much of the established wisdom of the time. The national strategies for literacy and numeracy predominated much of the curriculum planning and the concept of personalised learning had yet to be introduced. Maintaining and improving standards as defined by national testing measures remained a necessary goal hence adopting a new approach was professionally challenging and took courage! Listening out for the children's interests was one thing, identifying an interest that would prove a sound basis for curriculum planning seemed another. Nevertheless, the teachers persisted and by focussing attention on the conversations, interactions and preoccupations of the gifted and talented children in the class, some possibilities for curriculum projects began to emerge.

At the early stages of the research, many of the curriculum projects remained heavily influenced by the established curriculum although the teachers were more flexible in following unexpected avenues introduced by the children. For example, during her NC history topic on 'Famous People', Jenny observed her two gifted and talented children in the playground re-enacting the story of Princess Elizabeth in the Tower which the class had just viewed on video. One of the children, James (age 6) went home that afternoon and attempted to write a play of the same story with a role for every child in the class. Jenny decided to take this as her cue for following an 'expressed interest' and a rich curriculum diet evolved with activities that engaged the whole class including the two gifted and talented children. Local community experts were involved in video recording the production of the play and a local newspaper reporter was invited to both report the event and also to share the nature of her work with the children. Yr 7 children from the neighbouring school were invited to engage in developing the younger children's use of a newly designated role play area and finally, parents had the opportunity to view the video recording.

As the teachers gained confidence in using this approach to identifying starting points for curriculum planning, the projects became less recognisable as 'traditional' KS1 NC topics to be covered. For example, Walter (age 6) expressed his interests in cross sections on several occasions across the school year including a cross section of a beehive photographed in a non -fiction textbook. His teacher, Pat, had been waiting patiently (if somewhat anxiously) for an expressed interest to arise and so, when coincidentally a parent brought a wasp's nest into school it was clear that a 'magic moment' for curriculum development had arrived and Walter's interest became the corner stone 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 the local bee- keeper and detailed representations of wasps and bees by the children using a variety of representations: lego, paint, computer generated drawings, diagrams and close observational drawings.

Pat's experience of waiting some time before identifying an expressed interest to follow was echoed in Penny's experience. Penny had been discussing airports with her class:

> 'I taped four very able children building an airport following a visit to an airport. Whilst listening to the tape for something to 'repropose' to the children, I was struck by the number of times they talked about types of thinking – lots of references to concentrating, planning, thinking and deciding…
> I reproposed the idea to the children that they talked a lot about thinking. They didn't seem surprised and proved able to articulate quite complicated understanding of what happened when they were thinking: 'I just do some planning with myself' and 'It's like a lighting bulb goes off in my head'. I was also challenged by a comment that, 'There's more to wonder about at home'.
> 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!

Hence, Penny's curriculum focus was not in any sense a traditional curriculum topic but involved creating more time and space for thinking in the classroom and involving the children in this process. Developing an effective learning community to enhance learning opportunities for the more able child involved thinking about:

- the physical space and resources
- using 'experts' or specialist inputs
- being flexible with the time-table.

Utilising selected principles from the practices in Reggio Emilia helped to guide the development of an effective learning community in collaboration with the children and parents in Penny's school.

What can be learnt from the teachers' action research?

i) in relation to children's learning

Following the more able children's interests and developmental needs allows for more fluid 'personalised' curriculum provision within the whole class setting via curriculum 'themes' or projects which can be mapped retrospectively onto National Curriculum requirements. In this way, the curriculum projects enable gifted and talented children to:

- set their own challenges, follow their own interests, work independently at times and at an appropriate pace for their gifts and talents i.e. to experience manageable acceleration;
- initiate and model ways of working for the whole class without being constrained to work at a slower pace;
- work across many National Curriculum levels and subjects without being constrained by artificial curriculum boundaries;
- have the opportunity to work at depth and to experience an extended range of media for representing their ideas.

At the same time, whole class involvement in the curriculum projects raised levels of expectation, enthusiasm and achievement for the majority of children, Similarly, more time was spent on developing the curriculum projects which ensured that key concepts and skills were revisited and worked at depth.

ii) in relation to curriculum provision

Overall, the teachers' curriculum planning became more flexible and creative '…*the children's enthusiasm is infectious and promotes passionate teaching!'* Specifically, teachers:

- made greater use of their observations of children's interactions to inform planning with assessment for learning and personalised learning becoming increasingly a part of practice;
- became skilled at 're-proposing' children's thinking to them in order to challenge and develop their conceptual understanding;
- learnt more about the children's views of themselves as learners e.g. as reported by Emily (aged 6) - '*I don't actually know how clever I am and when I do it surprises me'.*
- increasingly worked more collaboratively with parents and 'experts' from the community whose contributions to the teaching enhanced children's learning and enabled the gifted and talented children's thinking to be challenged at an appropriate level;
- provided more opportunities for all children to use and apply their skills and knowledge via flexible time-tabling patterns

Further Research Possibilities

- involve children and parents more fully in the identification of gifted and talented children
- analyse the impact of involving 'experts' from the community on children's subject learning
- track whether children's potential in the early years is realised in later schooling

Useful Publications

Abbott, L and Nutbrown, C. (2001) Experiencing Reggio Emilia implications for pre-school provision, Buckingham : OUP

Burden, R (2000) Myself As A Learner Scale , Berkshire : NFER-Nelson

Edwards, C., Gandini, L., Forman, G., (1996) The Hundred Languages of Children The Reggio Emilia Approach to Early Childhood Education, New Jersey : Ablex Publishing

Harrison, C. (1999) Giftedness in Early Childhood, Sydney: GERRIC

Koshy, V. (2002) Teaching Gifted Children 4-7 A Guide for Teachers, London : David Fulton

Montgomery, D. (2003) Gifted and talented Children with special educational Needs Double Exceptionality, London : David Fulton

Porter, L. 2nd edition (2005) Gifted Young Children a guide for teachers and parents, Berkshire : OUP

Sutherland,M (2005) Gifted and Talented in the Early Years Practical Activitiesfor Children aged 3 to 5 , London:PCP

Teare, B. (2004) Parents' and Carers' Guide for Able and Talented Children, Stafford: Ntwork Educational Press Ltd

4. Supporting the development of cognitive and emotional well-being in gifted and talented children

---

Contact person: Colleen Marin email address: Colleen.marin@kent.gov.uk

Others involved: Margaret Jennings (Gifted & Talented adviser) & Nicky Biddle class teacher

Background context

Acknowledging that identifying and providing for gifted and talented children is always complex, and, that no-where is this more challenging than with children in the Foundation Stage, this project sets out to find effective ways of identifying and recording the competences of young gifted and talented children as they engage in self-initiated activities on a day-to-day basis. Information gained from this will then be used to determine what types of stimulating and challenging curriculum interventions are needed to keep the children focused and involved in their learning to ensure that any gifts or talents they might have are fostered at an early age. In particular, participating teachers and other members of staff will be encouraged to assess levels of 'well-being' and 'involvement' in their pupils. (The former being a state recognised through feelings of satisfaction, enjoyment and pleasure and the latter a quality characterised by the ability to concentrate and persist which leads to increased motivation and fascination, coupled with intense mental energy and satisfaction.) The precocious gifts and talents of particular children will provide a starting point for observations aimed at assessing what they know and can do, as well a noting any instance of 'intriguing' behaviour. What is learnt from the project will eventually be shared with other Early Years professionals within Kent LEA to ensure that all children - not just the majority- are catered for appropriately in Foundation Stage classes.

Aims

- To develop expertise, tools and strategies to help teachers identify young gifted and talented children.
- To develop a framework of interventions to create the best conditions for the development of gifted and talented children.

Dimensions of Study

The project aimed to identify, motivate and challenge gifted and talented children in the Foundation Stage of reception classes in five schools in East Kent and, ultimately to share findings throughout the LEA.

Influences on the Project

- Drawing on the work of Professor Ferre Laevers (1997) from Leuven University, Belgium. In particular, his scales of 'well-being' and 'involvement'.
- D. Eyre & L. McClure (eds.) (2001) 'Curriculum Provision for the Gifted and Talented in the Primary School'. NACE/David Fulton.
- S. Leyden (2002), 'Supporting the Child of Exceptional Ability at Home and at School'. Routledge

Research in Action

Getting started

Professional development relating to levels of 'well-being' and 'involvement' as indicators of quality provision was offered to Foundation Stage teachers from five schools. Videotapes were used to train these teachers to observe and moderate judgements about the well-being and involvement of a number of children. Next they were asked to screen their whole classes by using the Leuven Scales and to report back after having asked themselves the following questions:

- Who does not benefit from our provision?
- Who does not receive enough stimulation and care?
- Who may not be developing in all areas?

This led to a number of children being recognised as under-achieving or intriguing in the classroom situation. Ways to collect in-depth data about them were discussed and it was decided to put together case studies of potential gifted and talented children from each class.

Data from these were shared at project group meetings as a means of reflecting on and refining principles. As a result of these findings the curriculum was enriched to meet the needs of the individual children identified.

A Synopsis of Case Study of L

He presented as having:

- Low levels of well-being on the Leuven scale.
- Low levels of involvement on the Leuven scale although this varied across activities as he could concentrate for long periods on activities he liked e.g. he enjoyed listening to stories and concentrated well during these.
- Challenging behaviour – more interested in self than others.
- He could speak expressively on a range of subjects.
- He was inquisitive – especially in relation to insects – and was quick to notice changes to his environment.

- He blocked out his paintings although these and his drawings were detailed.
- He showed originality when making models.
- He became unhappy if he was given insufficient time to finish an activity.

Changes made as a consequence

The classroom environment was enriched to provide interest tables and interactive displays. Clear routines were established and boundaries for behaviour set. He was given support to express his emotions and talk about his feelings. He was allowed time to engage in the activities he was interested in and to speak to an audience about these, or to tell them stories, e.g. after he said "I've got a friend who is an eagle … Can I tell you the story?" In addition to this, the story was 'scribed' for him by his teacher enabling him to concentrate on the compositional aspect of story telling which was his strength.

Success Indicators

- His levels of involvement were increased and he was more curious about his environment.
- His sense of well-being grew – he enjoyed the success he achieved in speaking in front of an audience.
- His ability to compose stories far exceeded that of his peers.
- He had greater interest in a wider range of class activities.
- He set himself challenges and followed up ideas from teacher directed work during child initiated sessions. .
- His behaviour improved and he began to make friends.

Lessons learnt and findings

- The Leuven scales of 'well-being' and 'involvement' gave teachers a valuable, additional assessment tool to use to identify gifted and talented children as part of classroom observation and helped in the identification of children who may otherwise have been overlooked.
- The enhanced observational skills that the teachers acquired were useful when collecting evidence for Foundation Stage profiles.
- Wide-ranging planned interventions relating to children's specific gifts and talents enriched the curriculum and were successful in challenging and motivating them, resulting in improved levels of well-being and involvement.
- Parents were useful partners in the process of identification of gifted and talented pupils as they often had valuable insights into their child's interests and preferred learning styles.

Further research

Some issues remain for future consideration. How to:

- Find ways to preserve children's sense of ownership over classroom activities whilst ensuring that adults challenge and probe their understanding as deeply as possible.
- Offer flexibility within a carefully planned curriculum.
- Ensure that all Early Years staff are trained in observational skills so that young gifted and talented pupils are fully recognised and helped to fulfil their potential.

Findings from this project have been shared throughout the LEA and at national conferences in order to ensure that as many adults as possible are capable of unlocking children's gifts and talents through detailed observations. Using the indicators of well being and involvement it is possible to find out what fascinates children, look in depth at what they can do which, in turn, reveals how the conditions for learning can be adjusted by the adult to provide the appropriate next steps..

5. ‘Beyond The Hardest Shelf’ – Supporting and challenging young children of exceptional ability through participation in a weekly enrichment cluster

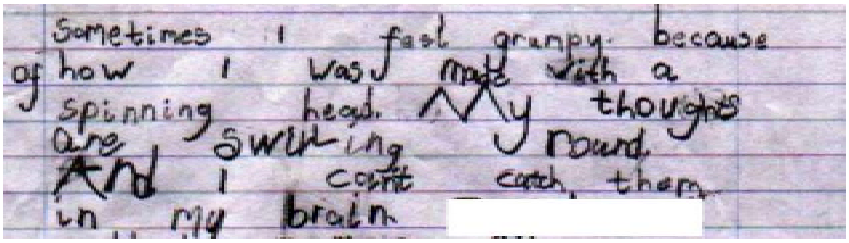
---

Contact person: Joy Blaker e-mail address: (LEA Adviser joy.blaker@rotherham.gov.uk
Other key personnel: Chris Houghton (Consultant – Leader of Enrichment project

[For an in-depth report of this case study go to www.rotherham-gt.co.uk (good practice)]

Background context

Rotherham’s Key Stage 1 project began with just one boy, a Year One child. His reading and speaking abilities were advanced but, both in nursery and at school, he displayed behavioural problems, preferring, for example, to be in the wooden washing machine or under a table rather than with the rest of his class. Although perceived to be of higher ability, he displayed signs of depression and the question of exclusion had even been raised. This is how he felt.



Spurred on by the needs of this child, a group of 20 similarly exceptionally able children was sought, so that they could meet together once a week to experience an enriched curriculum. During this their individual learning styles and curricular interests would be supported, as well as helping them to overcome any socialisation or task engagement difficulties they might be encountering.

Underlying the project was an earnestly held belief 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. Added to this, parents of young gifted and talented children often feel unable to cope and lack confidence in their ability to satisfy their child’s specific needs, so they need support.

There was never an intention to ‘hot house’ these pupils, but a belief that bringing them together in an enrichment cluster would offer them challenges and 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 with 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". Gifted and talented children like this should be offered a stimulating and challenging curriculum that encourages them to reach their full potential.

Aims

To evaluate whether:

- Key Stage 1 teachers can identify exceptionally able children, regardless of background, and how bringing these children together in a cluster for enrichment activities impacts upon their sense of well-being and ability to learn.
- The principles and practices on which such a cluster is based are capable of supporting parents and schools in making appropriate provision for Gifted and Talented pupils at Key Stage 1 and, consequently, can be used to provide a role model for Rotherham LEA and other LEAs.

Dimensions of Study

All Key Stage 1 settings in Rotherham (85) were invited to nominate exceptionally able pupils who were experiencing behavioural/concentration difficulties in the classroom.

Influences on the Project

- Study of cognitive development **-** Bloom's Taxonomy and High Order thinking skills (1956); Vygotsky (1986) and his theories on the Zone of Proximal Development and the impact of mentor or peer collaboration through social interaction; Gardner's theory of multiple intelligences (1993)
- Study of issues relating to children's sense of well-being and task involvement via the Leuven Scale of 'Well-Being' and 'Involvement' - Ferre Laevers, Leuven Univeristy, Belgium (2002)
- Evaluation of enrichment programmes **–** 'Let's Think' designed at King's College, London to accelerate children's cognitive development through reflection, independence and tolerance of others; Renzulli's Enrichment triad model (1977); Valsa Koshy (2002), 'Teaching Gifted Children 4-7: A Guide for Teachers'. London: David Fulton.

Research in Action

Getting started

- Initial identification to find children of exceptionally ability children was carried out by their class teachers.
- Various tests were used to check the reliability of teachers' assessment – e.g. Raven's Progressive Coloured Matrices test of Non Verbal Intelligence; a conservation of liquid assessment to determine concrete thinking ability.

- Each child produced a drawing to ‘Finish The Artist’s Creation’.
- A small sample of children completed an assessment of preferred learning styles that was shared with their parents and teachers to provide corroboration.
- Each child filled in a questionnaire entitled ‘All about Me’ – in this, amongst other things, they were asked what they would like to learn about.
- Parents of those chosen were asked to fill in an entry questionnaire.
- Data was collected during activities to monitor their effectiveness and so that pupils’ achievement could be tracked.

Sample Activities and Evaluation of their effectiveness

Various activities based on children’s interests were offered. The preferred learning style for the majority of the pupils was mathematical-logical but parents were told that the aim was to broaden this. The children rated themselves lowest linguistically although their teachers and parents did not necessarily agree.

The activities were designed to require very few written outcomes because of the age of the children. Any produced were sent home for parents to see. These included:

- Constructing a bridge out of 2 pieces of A4 paper.
- Discussions on Islam as part of using Western oil painting techniques to produce paintings in an Eastern style.
- Pottery.
- Animation.
- Mathematics - multiplying minus numbers
- Language activities centring on Latin and French.

In addition, ‘Arithmatrix’ (a maths game by Les Berridge) and the ‘Zoombinis’ computer games, both aimed at developing logical reasoning were always made available to any child who had a spare moment and during circle time phonics games were played. (Any activity that was not popular was not repeated.)

Lessons learnt and findings

- Teacher nomination, irrespective of the background of the pupils, was verified as reliable.
- The enrichment cluster teaching team needed to be extended so that appropriate levels of intellectual challenge and motivation could be provided across all subjects.

- Rigorous planning and evaluation were essential to maintain the challenge of the activities.

- Each pupil learned to reason logically through investigation/ problem solving approaches to each activity and, as part of this, their higher order thinking and questioning skills were developed.

- Metacognitive awareness encouraged pupils to verbalise what they knew and how they knew this to be the case. This was enhanced through teacher questioning that invited them to share e.g. what they were thinking or what had made a particular activity difficult.

- Pupils' outcomes were varied and sophisticated including photographs, Powerpoint presentations to invited guests and CDs.

- Involvement in the project had a positive impact on self-esteem, ability to socialise and the creativity of the children involved.

- Parents were kept well informed via meetings and 'pupil challenges' sent home every week.

- A fruitful partnership between the Project and Rotherham's Autism Outreach, Behaviour Support Services and Educational Psychology services was established.

Finally, as it had started with just one boy, how did he fare?
In his mum's opinion -
"*The group has been one of the best things that has happened to him. It has provided him with an environment which has been instrumental in improving his self esteem and his development to a happy fulfilled little boy at a time when it was suggested he would not be able to cope in mainstream school*."
His head teacher agreed with this, whilst the child, himself, confirmed that he had enjoyed the sessions and found them stimulating.

Further research

Some issues remain for future consideration. How to:

- support class teachers in providing similar activities as part of personalised learning programmes, whilst ensuring that any disseminated materials remain lively and creative.
- effectively and efficiently track pupils' achievements and attitudes to learning throughout their school career to ensure that they fulfil their early promise.
- meet Parents' requests for further provision for their children once they left the project: something that bridges the gap between this group and Rotherham's existing Year 5/6/7 Master Classes.

6. Mini Enrichment Projects as a Means of Combating Underachievement in an Inner-City Area

---

Contact person: Jo Farquhar e-mail address:
joannefarquhar@pilgrimsway.southwark.sch.uk

Background context

The project set out to see if a number of mini enrichment projects for Year 1 classes - incorporating higher level thinking skills and aimed at inspiring creativity - could be used successfully with inner-city children in a bid to recognise and cater for talent in a deprived area of London. When presented with a challenging and exciting environment, young gifted children usually become very curious, so a number of projects that encourage creativity through play, drama and art will be designed using constructivist, interactive approaches. The projects will be designed to be flexible enough to incorporate a variety of learning styles and to motivate children through different starting points that cover the same learning objectives. In addition, they will centre on holistic/multi sensory approaches to learning.
The mini enrichment projects will be piloted and evaluated through analyses of samples of children's writing and other learning outcomes, as well as through informal interviews with them and their teachers aimed at revealing pupils' levels of thinking and attitudes towards the activities. Once completed a number of projects will be trialled in others schools to assess their transferability. Then the projects will be made available for other Year 1 teachers from other schools in the London Borough of Southwark.

Aims

To evaluate whether:

- a number of challenging, cross-curricular mini enrichment projects could help with identification and improve the self-esteem and attainment of higher ability children through extending their questioning and thinking skills
- the mini enrichment projects could improve teachers' planning and their ability to provide challenging activities.

Dimensions of Study

Six mini enrichment projects will be piloted at Pilgrims' Way Primary School, then they will be trialled in other schools, before being made available to Key Stage 1 pupils across Southwark.

Influences on the Project

- Inclusive education for gifted and talented children leads to higher levels of attainment as long as a 'qualitatively different' curriculum is a regular feature of general classroom provision (Eyre 1997; Freeman 1998; Montgomery 1996, 2000).

- A developmental model (Braggett 1997) in which the teacher's role is to provide a challenging, multi-dimensional, differentiated curriculum for all children in order to allow those to shine who have not already been identified as gifted.
- Developing higher levels of thinking using Bloom's taxonomy (1956) of higher order thinking and Vgotskyian principles (1978) relating to the benefits of collaborative learning that suggest that if children are encouraged to share perceptions with one another their understanding will deepen.

Research in Action

Mini enrichment projects
The mini enrichment projects were designed to be cross-curricular and to cater for different learning styles. They aimed to encourage the use of higher order thinking skills (to evaluate, explain, justify, analyse), problem solving (to solve, reason, decide) and creativity (to design, invent, compose, perform, draw, write). 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. The mini enrichment projects were based around familiar children's stories e.g. 'The Gingerbread Man', 'Little Mouse and the Big Red Apple' and 'Rumble in the Jungle'.

Organisation and management

After consultation with the gifted and talented strand co-ordinator and the Early Years co-ordinator for Southwark, the mini enrichment projects were prepared. A letter was sent out to schools already within the Excellence in Cities (EiC) Gifted and Talented Project on the Aylesbury Estate, Southwark, to invite Year 1 teachers to trial the projects. Two local EiC primary schools responded and a meeting was held with interested teachers. Schools trying out the projects were asked to:

- fill in a questionnaire to establish current practices in terms of planning, cross curricular teaching and provision for Gifted and Talented children
- select one mini enrichment project to use in their Year 1 class for two weeks and to produce evidence of attitudes towards it and outcomes produced by the children.

An analysis of the pre-project questionnaires revealed that teachers were only 'occasionally making cross-curricular links' in their planning; even though they personally thought this was a good way for children to learn and they believed the suggested activities would require higher level of thinking and greater knowledge and experience on the part of the child.

Each teacher completed another questionnaire once the two weeks were up and this was used as the starting point for interviews with them so that issues could be probed in more depth.

Issues raised in teachers' questionnaires & interviews

- The project made it easier to develop cross-curricular links and there was time to follow up children's ideas, with the children sparking off each other as they worked as a team.
- There were lots of interesting ideas fostered by the wide range of activities within each mini project - the '*project was very successful, the children were inspired*!'
- The mini projects were easy to use and flexible enough to suit the needs of different classes.
- The topic web provided a 'familiar format' to planning that made preparation easier.
- Children became much more confident at expressing their ideas orally so there was a marked improvement in their speaking and listening skills.
- Children enjoyed expressing themselves orally before starting to write using planning devices like story mapping and through learning additional strategies with which to extend their stories.
- 'Buzz pairs' and 'hot seating' enabled children to think about story characters on deeper and more empathetic levels.
- The wide range of stimulating activities led to the use of a variety of learning styles - auditory, kinaesthetic and visual – and this led to more individual gifts and talents being identified.

Analyses of samples of children's writing

From a review of annotated samples of writing, several key themes emerged:

- Oral work that came from working with the puppets fed into children's writing and culminated in more imaginative stories being written.
- There was an improvement in the use of interesting phrases, more detailed and descriptive sentences and a wider range of vocabulary.
- There was a greater sense of audience in the written work that led to more coherent ways of conveying ideas.
- The use of role-play meant that more detailed character descriptions were offered in stories.

Lessons learnt and findings

- The mini enrichment projects supported the identification of gifted and talented children showing that they can be successfully catered for using the same starting point as the rest of a class.
- Cross-curricular links proved vital in catering for all children's interests and increased their enthusiasm and motivation towards work.
- The provision of a range of texts – some that were more challenging – helped to extend the higher ability children appropriately.

- The project had a positive affect on children's attitudes by enabling them to understand issues from another person's point of view.
- *'I really enjoyed teaching agai'* - teachers felt they were catering for the needs of all children in their class through these challenging projects.

Further research

We intend to:

- enrich the projects further by linking them to objectives from a wider range of Programmes of Study of the National Curriculum.
- assess how easily they can become part of schools' existing medium term planning
- apply the approach to another year group in Key Stage 1 to evaluate the impact this might have on planning and teaching there.

7. Developing Gifted &Talented Pupil's Creative Thinking Skills.

Contact person: Ken Stevenson Dorset Adviser - k.stevenson@dorsetcc.gov.uk

Participating Schools: Sticklands Primary School, Evershot
Marshwood Primary School
Witchampton First School
St Nicholas Primary School, Child Okeford

Action Research Aims

To research, develop and disseminate a pedagogical model for small schools which enables gifted and talented pupils to improve their creative thinking. In particular,

- to identify effective teaching and learning strategies that would be inclusive whilst providing opportunities for the most able children to extend their creative thinking skills;
- to agree the characteristics of a creative thinker to enable effective identification;
- to develop and trial a number of carefully structured cross-curricular tasks to involve whole classes;
- to observe the children whilst engaged in these tasks against the agreed criteria;
- to identify ways to utilise these observations and support children's next steps in learning;
- to explore ways to involve parents in this 'learning journey'.

Background context

Dorset is a predominantly rural authority with many of its primary schools significantly smaller than the national average. Schools in which pupil numbers are lower than 200 have been designated "small schools" in Dorset and receive additional attention from the LEA. For the purposes of this research project the schools involved have between 35 and 100 pupils. These small schools have other features in common; they all have mixed age classes and or mixed key stage classes too. Peer groups can be small with an imbalance of boys and girls. These schools also have fewer teachers, each teaching across the whole curriculum and with a wide range of other responsibilities. The challenge for the teachers is to meet the needs of all the different groups of children in any one class. The LEA was keen to further support them in this challenge.

Whilst Dorset's small schools are very successful there was a wish to develop a better understanding of how to meet the needs of very able and gifted pupils and to disseminate best practice within the everyday classroom context always mindful of inclusion. The focus selected for our research was developing "Creative Thinking in the KS1 classroom", mirroring national developments in developing thinking skills and broadening the primary curriculum.

The Characteristics of the Creative Thinker.

The following formed the basis of our identification criteria and were used in all classroom observations. A creative thinker :

- Is curious
- Is not worried by not knowing the answer
- Enjoys challenges
- Is optimistic
- Is able to make choices and re-evaluate them
- Is imaginative
- Can see the opportunities raised by a problem
- Is interested in the activity
- Can control emotions
- Is willing to try new ideas
- Can take risks
- Can find alternatives
- Doesn't give up easily- perseveres

The Research Schools

Four schools were involved in the development and use of the materials in the 'pilot'. These schools were invited to participate on the advice of the LEA officer with Responsibility for Leadership and Development in Small Schools because there was already some serious work being undertaken in developing children's thinking skills.

All of the teachers involved were very experienced mixed-age KS1 teachers who were willing to take some risks and be creative in their thinking. Their head teachers were hugely supportive and eager to be involved in developing and sharing 'best practice'.

Three or four more able children in each school were identified as the focus group for the research. Their parents (along with all the others) were informed of the project and that their children would be followed more closely. Permission was gained from all parents.

The teachers' research in action : what actually happened

Phase 1

A preliminary meeting was held;

- to clarify the purpose and aims of the action research and to establish how the research would be undertaken;
- for the participating head teachers and teachers to share their experiences of gifted and talented children in the context of a mixed age class and to outline their various and current provision for more able children;

- to set up the partnerships between schools, two and two;
- to define and agree the characteristics of a critical thinker (see Appendix 1) and to develop an observation sheet to identify the behaviours linked to the characteristics of a creative thinker;
- to develop a pack of six problem solving activities to be completed by all children during the first half of the Autumn term in 2004, at home. This was the 'Thinking Kit' This included opportunities for the parents to record their observations of their children's enjoyment of problem solving activities;
- to design a questionnaire to explore parents' perceptions of their child and to explore the perceptions of the child via a reflection sheet to encourage self-analysis;
- to develop an initial baseline activity day to be completed in all schools.

Phase 2

The 'Thinking Kit' was sent home with an explanatory letter that there was no 'right or wrong' way to tackle the problems, but that the process was important. The responses to this home- based activity were varied. Most children completed and enjoyed the tasks taking their time as was suggested, some rushed through them, a few were never seen again! Many parents took time to record their observations which were very helpful to their teachers, particularly those in the focus groups. This was not true for some. In common with her approach to work at school, 'D' had rushed through her tasks and there was no feedback from parents.

Each of the schools completed the baseline activity day. This was based on the story of Dick Whittington and included challenging, imaginative problem solving through technology, drama and art. Detailed observations were made of the focus children, plus additional observations made about significant learning from other children in the class. Teachers made reciprocal visits to their partner school to act as observers of the baseline activity. This provided contextual information and professional support and was very helpful in later meetings and discussions.

A second whole day activity was planned for all schools to complete. This was The Upside Down Day. The focus was on developing mind mapping skills as a tool for structuring children's thinking. This was again supported by peer non-participant observation by partner school.

Each school was then asked to design their own third activity day in conjunction with their partner school and develop the materials to support it. These could then be used by other schools at a later date. These days were very different, but really challenged children to think creatively.

- Gnomeland. Design a new estate for gnomes to live in. This activity challenged their logical thinking and their use of decision trees.
- Jim the Giant. A new boy is joining the school and he can't get a school sweat shirt to fit. Can we make one? What other things will need to change in school to accommodate such a big boy?

- The Shipwreck. Using a video clip from The Little Mermaid to set the scene of being in a shipwreck. Activities include mind mapping to connect ideas, thinking of unusual uses of found objects and construct a shelter using a range of resources.
- Think of a number. A series of mathematical challenges.

All the planned activities required significant communication, collaboration and perseverance. The focus children were paired where possible to aid observations, but the children were offered the opportunity to work independently, in small groups and as a class.

The final activity day was planned around the story 'Where the Wild Things Are' and involved drama and role play, design technology, music and dance. This final activity drew on all the learning aspects of previous days.

What can be learnt from the teachers' action research?

In relation to children's learning

- In all four schools some of the children identified as gifted and talented have been less successful than expected with the open-ended nature of some of the tasks, whilst some of the other children have far exceeded expectations and revealed considerable creativity.
- Whole class involvement raised levels of expectation, enthusiasm and achievement for the majority of children.
- Children could work at their own pace and not be constrained by time limits, particularly the most able. Given time the children produced work of high quality that they were really proud of. Achievements were not constrained by artificial curriculum boundaries.
- All the activity days were undertaken by whole classes and this raised questions about identification and the breadth of definition of gifted and talented children and how it relates to children's preferred learning styles.
- There were some gender differences noted amongst the focus children. Where the most able boys were paired they collaborated well to complete tasks, but communicated little! The more able girls talked constantly about the task and how to improve what they were doing. This finding is something we would like to explore further.
- Parents have become more involved in how their children learn.
- The teachers identified a number of features that enable children to be "creative" and extend their thinking. These are not exclusive to the most able and include:

- time for the children to develop their own ideas at their own pace and complete tasks
- good listening skills and a capacity to collaborate
- self-confidence and an ability to tolerate the uncertainty of not always having the 'right' answer to open ended challenges.

This knowledge has required a fresh look at curriculum planning and how the teachers provide for children to learn to learn.

In relation to curriculum provision

- The teachers used their observations of the children's approaches to the tasks to inform their future planning. In all four schools the teachers have taken a more creative approach to their planning
- The teachers 'took a step back' from direct teaching and allowed the children to make decisions about their own learning allowing them to work on self- sustaining tasks. High levels of concentration were observed.
- The peer support allowed staff to be non-participant observers in both their own and others schools. This has stimulated discussion. It has also provided opportunities to ask children in depth questions about their thinking behind their work. This revealed a much deeper understanding and learning connections that were not always immediately obvious.
- The participating teachers value the support of each other and are a team that readily share ideas and best practice.

- There is a need to extend the project into KS2 and beyond. The teachers in KS2 in the four pilot schools are very eager to extend the Creative Thinking skills project to include the seven to eleven year olds.

Further Research Possibilities

- Continue to work with pilot schools to further develop practice through peer coaching and support;
- Develop teachers' ability to plan and teach activities which allow for children to develop their thinking skills.
- Review the curriculum to ensure greater flexibility and make time available for extended learning opportunities including allocating more time to develop thinking skills

Useful Publications

Dowling, M. (2003) Developing Potential in the Early Years, British Association for Early Childhood Education : UK

Harris, R. (1998) Introduction to Creative Thinking

Koshy, V. and Casey, R., (1997) 'Empowering the Teacher to Meet the Challenge of the Able Child'
in *Early Childhood and Care* No.130pp49-58

Robinson, Nancy M. (2003)Giftedness in very young children: How seriously should it be taken? Brunel University Conference

Van Tassel-Baska , J.(2001) ‘The Talent Development: What we know and what we don’t know ‘ in

Gifted Education International

8. A study of transition through a child centred curriculum with particular reference to gifted and talented children

---

Contact person : Jenny Smith East Sussex LA jsmith@cfbt.com

Participating Schools : West Rise Infant School, Linda Morris
Plumpton Primary School, Mandy Gard

Action Research Aim

- To investigate the impact of an enhanced transition process on children's achievement and attitudes and to focus on children's personalised learning.

Background context

Despite their diverse nature both schools were experiencing similar challenge in ensuring progression and continuity as children move between the Foundation Stage and Key Stage 1. The joint aim of the research was to look at transition from the Foundation Stage through into the respective classes of Key Stage 1. Good transition between classes is the key to ensuring progression and continuity in learning and a settled start for children in their new class.

A programme for families and children making the transition from Reception into Key Stage 1 was developed in order to ensure continuity and progression of children's learning experiences. The intention was to avoid the delays that can occur at the start of the academic year when teachers in Yr 1 have insufficient transfer information about children's progress. Once a programme of enhanced procedures for transition was in place, attention was given to offering a personalised learning environment for all pupils with particular reference to Gifted and Talented children. The personalised learning curriculum drew on the teaching and learning approaches associated with the Foundation Stage and set out to ensure that no ceiling would be placed on a child's achievements and potential for learning

The research explored the hypothesis that a child centred curriculum, delivered in a socially secure environment, allows children, especially the more able, to flourish.

Research Schools

The schools taking part in the project are diverse in nature. West Rise is an Infant School in an urban environment (180 on roll) and Plumpton is a Primary School in a rural area (157 on roll) with vertically grouped classes in Key sate 1.
Four children identified as gifted and talented would be "tracked" across the period of transition from Reception to Year 1. The four children were selected to be the focus for the research as they represented a wide spectrum of 'gifts and talents'. The procedures

for identification included on-going dialogue with the parents, review of Foundation Stage profiles and plotting children's achievements against the 'Stepping Stones'. Detailed case studies of the children's development have been collated.

The teachers' research in action: what actually happened

Phase 1: gathering information for a needs analysis

After initial meetings between both schools key members of staff began gathering baseline data in the following ways:

- Questionnaires were used with both children and parents to explore children's preferred learning styles;
- Questionnaires were used with both children and parents to review the transition process between Reception and Year 1
- Both staff teams met to discuss children's learning needs in order for the Yr 1 receiving teachers to have quality information about the children coming to them;
- The trial of a mini learning journey took place;
- Four gifted and talented children were identified by using the Foundation Stage Profile data, observations of learning and conversations with parents.

At this stage of the project the gathering of data was important in that it provided a "needs analysis" which would help to identify areas for action. The questionnaires revealed that parents begin to think about their child moving into Year 1 as early as January in the Reception year.

The children made the following comments in their questionnaires, '" I wasn't sure about Base 3 it looked like a big room and that things were going to get hard"; "tell the children there are games and puzzles, but no playing toys"; "Base 3 and 4 would be better if you could do more writing - my own stories".

The children's responses also indicated that they really enjoyed being active and physical, that they learn through hands-on experience and they love books and being seen as independent learners. We used these findings to plan changes to the organisation of the learning environment as well as developing the curriculum. This inevitably impacted on teaching and learning.

The "stepping on" transition programme was developed to support children and families during the first weeks of the new Autumn Term in Year 1. An holistic approach to planning the curriculum was adopted based on the Foundation Curriculum six areas of learning and addressing and children's own interests. This planning approach became known as "learning journeys".

Phase 2: Implementing the transition programme and 'learning journeys'

Children and their families returned to school in the Autumn Term and were presented with a number of planned changes:

- A family induction day to welcome families and children to Year 1 - an opportunity to share information about life and learning in Year 1.
- The physical learning environment now presented increased opportunity for active approaches to learning within a more flexible but still focussed curriculum.
- A two week "stepping on" programme - with learning based around the themes of respect for self, respect for each other, respect for our new and shared environment and generating excitement about learning. A key element of the programme was to explore children's interests and hobbies outside of school.

The philosophy underpinning the programme is that at this age children are like young shoots so that it is difficult to predict exactly how they will bloom hence **all** children in the two classes would be likely to benefit from this revised provision. The emphasis was on developing as wide a variety of talents as possible (as had already been the case) in order to avoid a straitjacket that could be imposed by over-concentration on literacy and numeracy.

Building on input offered by the LA children were encouraged to go on 'learning journeys' (one timetable slot each day) and were encouraged to decide for themselves what they wanted to learn about (examples chosen by the children included Hobbies/Whales and Dolphins) before they embarked on the journey. Identifiable success criteria were established at the outset and plotted against the national learning requirements for the Foundation Stage and Key Stage 1 although these were not seen as exclusive.

This way of working encouraged teachers to be less compartmentalised in thinking about children's learning and, as a result, the children's motivation increased significantly. There is evidence to suggest that the children were taking more responsibility for their own learning and transferring what they have learnt in one situation to another. Also, as Year 1 children, for example, sometimes worked with those in Year 2 they were being motivated to achieve higher levels of attainment across all areas of the curriculum.

Staff met together to evaluate the "stepping on" programme. The two schools monitored the effectiveness of the planned activities and as a result of the success of the initial 'mini' learning journey, further learning journeys were introduced. Specific observations were made of the gifted and talented group and a number of the children's interests, gifts and talents became evident.

One interesting finding from both settings was that children were more involved and engaged in their learning. They were making their own connections in learning and were so inspired that they started to bring work from home. Parental comments also

suggested that their children were much more excited about school, and parents became more involved in their children's learning.

The process of continuing to develop the curriculum and furthering the involvement of parents in their children's learning is ongoing. Parents and children's views of the impact of the 'learning journeys' were sought alongside views on the transition process from the target children and their parents.

Future intentions include the development of a more robust system for identifying gifted and talented children which gathers evidence of children's motivation, levels of engagement and involvement, as well as their natural disposition, strengths and talents. At the same time, refinements to the Special Educational Needs register could be made to ensure that the gifted and talented children feature more strongly. In this way, there will be focussed support for enhanced provision for the children, for example, providing discussion partners; additional adult and resource support, and developing a programme of coaching and peer mentoring. Subject leaders will be utilised more fully to provide gifted and talented "workshops", for example, a local archaeological search, an art workshop based at Charleston House, Sussex, Advanced Skills Teachers working with gifted dancers

What can be learnt from the teachers' action research?

In relation to children's learning

- Care needs to be taken with defining 'gifted and talented' in the context of young children as gifts and talents may take time to emerge.
- In order to identify gifted and talented children the educational climate and provision must create opportunities within a structured framework for independent learning, problem solving, creativity and, crucially, time for full engagement in learning.
- Personalised learning can be addressed by planning themed 'learning journeys'.
- Young children are highly motivated by learning journeys that take account of their personal interests.
- Learning journeys prompt young children to take responsibility for their learning and encourage transfer of learning from one context to another.

In relation to the curriculum

- Flexible approaches to curriculum planning enable teachers to plan for personalised learning.
- 'Learning journeys' can :
- both address and go beyond national requirements for curriculum coverag
- provide a manageable context for Yr 1 children to work with elements of the Yr2 curriculum (and on occasion, Yr 2 childr
- provide purposeful home-school links and involve parents more fully in their children's learning
- motivate children by addressing their interests and hobbies
- support a smooth transition from Reception to Yr 1
- provide opportunities for the development of gifts and talents for all children as well as targeted provision for gifted and talented children.

- Subject leaders and ASTs can provide specialised learning journeys to enhance the development of particular gifts and talents.

Future Research Possibilities

- To work closely with the local Sure Start programmes and Children's Centres to explore ways of raising awareness that even our very youngest children may have talents, interests and emerging gifts.
- To develop ways of sharing with parents different approaches to teaching and learning.
- To develop robust, holistic identification systems.

Useful Publications

Koshy, V., (2001) Teaching Gifted Children 4-7, London : David Fulton

9. The development of mathematical activities (cross-curricular) for gifted and talented children with a focus on open-ended themes and enquiry.

Contact person : Jean Knapp
Hillingdon School Improvement Service
Jknapp@hillingdongrid.org

Participating Schools: St. Mary's RC School, Uxbridge, Claire Daltry
Minet Infant School, Hayes, Lesley Bailey, Nicola Davies
Whitehall Infants, Uxbridge, Nicky Tranter, Rachel Frederick
Bishop Winnington-Ingram CE Primary, Ruislip, Phillipa Cooper
Whiteheath Infants, Ruislip, Anita Lawrie
St Bernadette's RC , Louise Ranger

Workshop Trial Schools: Sacred Heart RC Primary, Botwell House RC Primary

Action Research Aim

- To develop mathematics activities for more able KS1 children which focus on cross-curricular themes and open-ended enquiry.

Background context

Recommendations in the 'Excellence in Cities and Education Action Zones' Ofsted Report (DfES May 2003) identify the need to include a focus on resources for all year groups as well as Years 5 and 6; to embed the gifted and talented learning strand in schools' overall approach to teaching and learning; to respond to children's needs within the lesson (questioning and pace being the two key areas identified); and to increase parental involvement with a focus on enhancing communication. In similar vein, the 'Five Year Strategy for Children and Learners' and 'Excellence and Enjoyment' also highlight the importance of partnerships with parents and providing a rich, well-designed and broad curriculum.

The 'KS1 More Able Conference' in July 2003 at Brunel University generated much enthusiasm amongst those people who attended from Hillingdon LA and inspired the creation of a research project that would not only develop mathematical ability through other curriculum areas but also develop the skills of open-ended enquiry. The research and development project was designed to enable gifted and talented young children to explore mathematics through various aspects of their daily lives such as buildings, clothes, toys, food, sport and journeys, and to involve their parents/carers in this

process. Although the activities would take place after school, the intention was to analyse the impact of the strategies on the subsequent classroom teaching and learning in order to create a social, rich and open-ended mathematical journey.

Key theorists influencing the research design included Vygotsky (1978), Sternberg (1985), Robinson (1993) and Wallace (2002). The *Thinking Actively in a Social Comtext* (TASC) principles for planning developed by Wallace (2002) were adopted and adapted in the design of workshop activities for children and parents. The main features of TASC are to create learning opportunities to:

- Promote thinking.
- Put learning in a context – learning needs to be relevant, linked to real life and be culturally meaningful.
- Involve, empower and motivate pupils.
- Develop a social learning environment with interaction, sharing and cooperation.

The research teachers were also aware that the definition of 'more able' KS1 children is not a straightforward matter and that the identification process is similarly fraught with dilemmas. Sternberg's view that giftedness is '*wisdom, intelligence and creativity*, *synthesised*' supports the view that test results, and identification lists do not provide the 'whole picture'. Hence a number of identification methods were combined in order to gain as much insight as possible into the relative gifts and talents of the children:

- Gifted and Talented Register.
- Test Scores.
- Teacher Assessment - children with a particular strength/interest in the cross-curricular areas or displaying some of the attributes of the more able mathematician, although not necessarily in a top set, were also considered.

A range of data was collected and analysed throughout the research to inform each stage of the research process. Data was collected from:

- Observations of pupils and lessons - observers observed a pair of pupils or all of the class. Children's work was also collected and analysed
- Photographs/video recording – following the workshop, children watched the film taken as an aide memoir and were given a questionnaire asking them to reflect on the workshop.
- Questionnaires for parents and children to evaluate the workshops.

Research Schools

Hillingdon is a London Borough. It has a diverse population, with pockets of affluence and areas of deprivation. There are 69 primary schools altogether.

Two schools were involved in the first phase of the project and in the second phase, the first two schools repeated their workshops with a further three schools. Although five schools took part in the project, many more schools contributed to the working party

with the formation of ideas, monitoring of lessons and evaluating evidence. The schools selected represent the cultural diversity of the borough.

Children were selected from Year 1 and Year 2 and in some cases, year groups were mixed.
Nearly all of the teachers involved were experienced classroom teachers and two were advisory teachers.

Phase 1: Developing a Framework for Workshop Planning

'Sports Day' and 'Clothes' (Buttons) were identified as themes for the initial after school workshop development. At the same time, a flexible framework that all future workshops could adopt was generated:

- Gather and Organise – The teacher establishes the children's prior knowledge and what they need to find out.
- Generating ideas.
- Making Decisions.
- Decide what course of action will be taken
- Implementing Ideas
- Evaluate Work
- Communicate what you did to another pair/adult.
- Learn from the experience.

Homework was also set with the intention that parents would be involved in the extension and reinforcement of workshop activities.

For this phase of the research, six children were identified as gifted and talented. Each workshop was evaluated and the results were used to amend the workshops for the next phase of implementation including the design of three further workshops. The evidence gained from the workshop observations and parent/child questionnaires indicated that children's self confidence, independence and enjoyment of mathematics improved as a result of the workshop activities (see Appendix 1 for further details).

The involvement of parents/carers was also a key objective of the project. Outcomes showed that the 'cross-curricular' nature of the project blurred the boundaries of what is normally perceived by parents and children as being 'mathematical' hence parents were not sure what to expect prior to the workshop. Many parents reported that the children's homework was challenging and that their child needed support particularly with being systematic in their working. The parents clearly enjoyed being part of their child's learning.

Teachers found the framework for the workshops very easy to use and reported an increase in children's confidence, independence and enjoyment. All of the workshops had mathematical cross -curricular links including everyday contexts. Some of the children had particular interests in other curriculum areas and so the workshops enhanced their enjoyment.

Some children needed more opportunity to work in groups/pairs.

The teachers felt more confident with the workshop strategies and ideas for teaching able children and were surprised at how much the children achieved. Some of the mathematics taught through these themes moved into the KS2 curriculum (probability, tessellation), however, pupils had a good understanding of the concepts being taught. The teachers enjoyed establishing further links with parents/carers and commented that the workshops challenged both the parents' and children's views of mathematics.

Phase 2: Integrating the workshop principles and approach into classroom provision

In this phase, the focus was on adapting the existing material to suit a whole class environment (and therefore, mixed ability). We started by trying the workshops within the whole class setting to get an idea of the issues surrounding their use by classroom teachers unfamiliar with the materials. We then decided on the necessary changes.

We looked at the existing plans and identified key areas that need to be consistent in any planning to make them transferable into the Daily Maths Lesson and in an environment where gifted and talented pupils make up only a fraction of the class register. The key aspects were:

- Objectives (Linked with the NNS and POS).
- Differentiation – More open-ended to suit all abilities of pupils.
- Resources – Make a list of alternative resources readily available in schools the lesson will require.
- ICT opportunities – Whiteboard pages and other applications.
- Health and Safety Issues.
- Questioning – Reduce questioning and concentrate on key questions to allow flexibility with questions that the teachers decide to include as additional to the planning and allow for 'unprepared' moments of discovery.
- Opportunities for extension.
- A summary of the lesson – to give a 'flavour' of the material.
- Suggestions for groupings.
- Clearly defined cross curricular objectives.

A 'teacher trial' in another school took place in order to see if the amendments to the original materials were successful with teachers who were unfamiliar with the workshop material. Feedback from the teachers and children involved in this trial has since been incorporated into the final guidance for further dissemination. Overall, the evaluative feedback was very positive and the workshops were enjoyed by both teachers and pupils: "Wicked!"
"I enjoyed it lots", "We had fun, because it was all races and no Maths – only a little bit!"
"We didn't have to do lots of writing and sums to learn something"

What can be learnt from the teachers' action research?

In relation to children's learning

- Using an open-ended approach to activities allows the more able children to respond at their own level and therefore, thrive in a mixed ability environment.
- The 'real-life' elements of workshop activities enhances children's enjoyment and challenges the more able.
- As children's enjoyment and confidence increases then higher levels of self-esteem follow.
- Children are highly motivated by open -ended tasks.
- Grouping and pairing children for collaborative work needs to be frequently reviewed and some children may need more opportunities to work in this way.

In relation to curriculum provision

- 'Taking a step back' and allowing children to direct their own learning within a structured framework increases the potential for learning and raises teachers' expectations of possible outcomes.
- Focusing on skills as well as content allows teachers to develop the breadth and depth of the mathematics which enhances provision for all children as well as the gifted and talented children.
- Parental involvement can enhance the learning experience for gifted and talented pupils. Questionnaires revealing 'risk taking' in the home highlighted the need to have more opportunities to do this in the classroom.
- There is a need to extend the numeracy session beyond one hour to enable gifted and talented pupils to engage in deep mathematical activity.
- There can be a tension between slowing the pace of learning to allow for depth of content and the need for young children to acquire essential basic skills.
- Teachers and children working together on video evidence of classroom activity can be used for formative assessment purposes and to encourage children to reflect on their learning.

Further Research possibilities

- Investigate the workshop approach with an emphasis on a range of curriculum subjects.
- Continue to develop parental involvement in the identification of gifted and talented children and also homework enrichment tasks.
- Review the use of video recordings to prompt and extend children's reflection on their own learning and to support assessment for learning.

Useful Publications

DfES (2003) Excellence in Cities Ofsted Report London : DfES

Koshy, V., (2002) Teaching Gifted Children 4-7 – A guide for Teachers, London: David Fulton Publishers

Robinson, Nancy M (1993) 'Giftedness in Very Young Children'

Sternburg, R.J., (1985) Beyond IQ: A Triarchic Theory of Human Intelligence, Cambridge: Cambridge University Press

Teare, B., (1997) 'Effective Provision for Able & Talented Children, Network Educational Press

Vygotsky, L.. S., (1978) Mind in Society: The Development of Higher Psychological Processes, Cambridge MA: Harvard University Press

Wallace, B., (2002) Teaching Thinking Skills Across the Early Years, London: A NACE/Fulton Publication

---

Evidence of children's engagement

The following evidence gained from the workshops indicates children's self confidence, independence and enjoyment of mathematics did improve. Evidence was collated from lesson observation and pupil and parent questionnaires:

Self - Confidence

- Children showed the initiative to check their own work during the workshop.
- Explained methods to the whole group.
- Children work confident to work things out mentally.
- They did not feel threatened when thinking was challenged and extended.
- Some children were confident enough to feel their work was correct without checking.
- Children shared their knowledge with one another.
- Children suggested their own extensions at the end of the workshop. When coming up with new ideas for a game (Workshop: Routes) 'you can only move diagonally….you can only have a rectangular/triangular grid…you could use numbers/letters for the grid'.
- One child, recognised as quiet by both teacher and parents took an active part in the workshop and his parents noted a raise in his confidence (Workshop: Barnaby Bear).
- When exploring tessellation in the 'Out to Lunch' workshop, one pair realised cuboids were a good choice to pack in their lunchbox and leave no gaps so they

thought ‘what if we packed the lunchbox using only the penguin chocolate bars?’ These children concluded,
‘*If they are all cuboids they can easily fit into the lunchbox with no gaps’* and,
‘Round things leave lots of gaps’.

Independence

- Some children used their own self-checking methods, for example, inverse.
- Children showed an ability to explain methods to the teacher and each other.
- Children made their own decisions. At the ‘Sports Day’ workshop children created their own points system for a P.E game.
- Some children re-evaluated their work and used a systematic approach.
- Some children suggested their own extensions to the task and developed ‘what if?’ possibilities.
- The children arranged their own ‘turn taking’ within their pairs and made agreements on what needed to be done.
- Children made their own decisions on what they should record and what materials they should use.

Enjoyment

- Comments at the end of the workshop sessions and questionnaires showed an overwhelming majority of the children enjoyed the workshop, although the home task had mixed reactions.
- Children were also excited prior to the workshop.
- Many of the children’s comments reported they had found the workshops ‘fun’.
- Some children recognised the mathematical links to the cross-curricular material of the workshop but some thought it was so fun it could not possibly be mathematics! Children seemed to have the perception that mathematics was about calculations.
- Some children also found it captured their interest, ‘It is interesting because you have to do problems or puzzles’.

10. A mini enrichment project to identify gifted and talented hearing impaired and EAL pupils who are beginners in English

---

Contact person: Rebecca Scott-Saunders
General Adviser, Hounslow LA
Rebecca.Scott-Saunders@hounslow.gov.uk

Participating Schools: Strand-on-the-Green Infant & Nursery School
Mark Newton , Vanessa Purser
Norwood Green Infant & Nursery School
Dushani Parker, Sinead Camplin

Action Research Aims

- To explore the use of Gardner's Multiple Intelligences in creating a series of mini enrichment projects that link into the curriculum and that can help the early identification of able pupils with EAL and Hearing Impaired children using visual and kinaesthetic approaches without the use of English language.
- To trial and evaluate this series of newly designed mini enrichment projects for use within Early Years indoor and outdoor settings.

Background context

Development of potentially gifted and talented pupils is a focus in many schools as Hounslow local authority is in the third phase of Excellence in Cities. As an authority with a high percentage of bilingual pupils we wanted to focus on creating opportunities for talented behaviours to "reveal" themselves through activities that were culturally accessible and were not focused on the understanding of "English" to carry out the activity.In essence the research explored:

- current learning experiences of EAL pupils in the Nursery;
- recollected past learning experiences of KS2 EAL pupils in the Early years when beginners in English;
- development of mini enrichment activities based upon observations and interviews;
- impact of mini enrichment projects upon the children both during and after the sessions;
- impact of affective aspects of learning upon the pupils learning behaviour and motivation;
- identification through assessment

Research suggests that hearing impaired pupils are not necessarily given the opportunity to be identified as gifted and talented due to their hearing impairment and others perception of their abilities. Vialle and Paterson (1998) assert that '*there is a tendency to focus on disability so that a child with even outstanding abilities may be overlooked in the preoccupation with the child's deafness.'* We wanted to be able to create opportunities to identify ability without the need for English language as this

proves a barrier to the pupils we teach. Our research showed that the majority of literature available focused on the identification of giftedness in the core subjects and we wanted to broaden identification into a wider spectrum of abilities. Winstanley (2003) writing about hearing impaired children, claims that ' …*an identification system that uses a range of indicators is clearly more useful than narrow IQ based tests.* The use of Gardner's (1993) multiple intelligences approach '…*could allow for a broader range of children being identified and receiving support.'* Koshy (2001) asserts that ' *Gardner's multiple intelligences are very useful for identifying younger pupils because of the flexibility it offers in making decisions…(current) identification is rudimentary and is not solving the problem of latent high ability particularly among pupils who under achieve generally.'*

Consequently we developed an understanding of Gardner's range of multiple intelligences in order to identify abilities that are not linked to linguistic competence. The knowledge of these intelligences informed the planning stages of the learning experiences and formed the basis of the assessment criteria. Identification of different gifts and talents would then allow for teachers to provide for children at a crucial stage of their development. Multiple intelligences can only be identified if there is provision made for them in the curriculum. However, it is important to emphasise that identification is an ongoing process and one activity cannot be solely relied upon; our activities are a starting point. It *is 'bringing assessment o the children rather than bringing the child to the assessment*.' (Koshy 2001). Furthermore, we designed our learning experiences to reflect Renzulli's Three Ring Model (1994) that asserts that activities for above average ability children should encourage task commitment, perseverance, and creativity. We felt that our *'learning experience must be constructed and assessed with as much concern for enjoyment as for other goals…learning is more meaningful and enjoyable when content and process are learned with the context of real and present problems.'*
Belle Wallace's (2002) TASC model provided a practical framework for planning the first learning experiences.

Research Schools

Norwood Green is a three form entry school on the borders of Hounslow and Ealing. 94% of children at Norwood Green Infants and Nursery School are classified as minority ethnic pupils, 39% of which are categorised as beginners to Stage 3 in English language. The school has a hearing impaired unit consisting of six pupils who are 90% integrated into mainstream classes. The school felt that this project would be appropriate due to the high percentage of EAL learners and the difficulty in identifying such pupils at an early stage of their schooling. PIPs results are below the national and borough average whilst the end of Key stage SATs results indicate that the value added score is above average. Therefore, the school felt that the current baseline assessment system is not accessible for all our children and does not provide adequate opportunity to identify gifted and talented bi, or tri- lingual children. Furthermore, it was felt that current baseline assessment methods did not assess other areas of learning such as

artistic, musical, problem solving abilities that are widely reflected in the current Foundation Stage curriculum.

Strand-on-the-Green is a three form entry school in Chiswick, Hounslow. It is a culturally diverse school with 56% of children from ethnic minority backgrounds. Thirty six languages are represented and the proportion of pupils with English as an additional language has doubled in the last four years (currently 25% as beginners to Stage 3). Strand uses PIPS baseline assessment on entry to Reception and historically EAL pupils achieve low scores in this Literacy and Numeracy based assessment. Identification for able pupils is teacher assessment led and therefore relies on the quality of routine provision that may or may not be accessible for EAL pupils.

The teachers' research in action: what actually happened

Phase 1: Reviewing current practice

The initial phase of the project involved gaining insights into the current state of play in both schools in order to inform the development of curriculum enrichment projects. Data was gathered from:

- interviews with identified EAL Gifted and Talented KS2 pupils who had been EAL beginners in Reception;
- timed observations on beginner EAL Nursery children;
- questionnaires to parents;
- a review of the accessibility of baseline assessment for bilingual and hearing impaired children.

The timed observations of Nursery children revealed individual's learning behaviour and also helped to establish the most useful types of play that could be used to identify able pupils. Water proved to be the most collaborative activity. It allowed for sustained thinking and focus. Children investigated bubbles with a variety of containers to pour and fill. More able or confident pupils tended to select the larger scale or more complex resources. They also used them in a less conventional way. For example, a group of EAL pupils were observed pouring and filling in a repetitive fashion. One child constructed a variety of linked resources to convey the bubbles across the water tray. Some children chose to collaborate and others remained focussed on the repetitive familiar task. Large scale, especially outdoor activities, seemed to motivate both genders and also encouraged interaction between children. In Norwood Green, it was noted that most of the focus children chose problem solving, pattern based activities that required little or no interaction with others.

Interviews with able Year 6 children who had previously been beginners in English when they started school took place in the Summer Term. The conversations highlighted these children's preference for non-language based activities, especially number and physical play. They remembered liking sand and water because they 'couldn't get it wrong'. Low self esteem emerged as an issue. One child commented 'I never knew everyone liked me. Everyone was staring at me.' Another child, when asked

what they were good at replied, ‘just playing…I spoke Arabic…I didn’t do much English’. Children talked of feeling embarrassed and what helped them was copying others, although they didn’t understand. One child said, “you know when babies hear hello they hear bello or something like that… that’s what it was like!” Others spoke of their frustration at not being able to access the curriculum and their continued frustration and annoyance when given different work to the rest of the class.

We reflected on these issues and carried these forward as we observed our current Nursery cohort.

During this phase each school identified a pool of up to eight EAL beginner children in the nursery to take part in the enrichment projects once they reached Reception. In addition, Norwood Green also identified two hearing impaired children for the project. Children were selected from this pool to make up appropriate groupings, depending on the learning experiences to be trialed.

Phase 2: Developing mini enrichment projects

By this stage both schools had evolved a shared understanding of the key criteria for activities that would support identification of gifted and talented children. Each curriculum enrichment project was trialled in Reception 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
- large scale
- no space or time constraints

Details of the enrichment activities, The Water Challenge, The Cube Challenge, The Shelter Challenge and The Creative Experience can be found in Appendix 1.

Both schools evaluated evidence from video, observation notes and photographs to assess the children’s varied approaches and responses to the tasks. It was at this stage that the teachers considered whether the children had demonstrated any special abilities that indicated a particular intelligence.

The children exhibited sustained thinking and problem solving behaviour whilst engaged in all the activities, which surpassed class teachers’ and observers expectations. Children whose teachers had noted a short concentration span remained engaged and involved for over an hour and also proved able to revisit the activity over more than one session. Collaborative work was evident, particularly in the water and shelter activity. For example three children worked together to roll out and model and pathway for the bear from a ten metre roll of fabric. This collaboration was also needed for assembly

and elevation of long pipes during the water challenge. Similar roles were adopted by particular children throughout the series of projects. For example, one child demonstrated a repetitive method for conveying water and did not deviate even when other children started to experiment. The same child assumed a similar role during the creative experience, using only familiar paintbrushes and concentrated on employing simple routine, painting methods. Other children however, took on risk taking, leading and facilitating roles.

The team became particularly interested in risk takers as their activities required original thought. For example, one child, during the Shelter Challenge, used the tyre as a sun, attaching pipe cleaners to become the rays. She said, ‘a sun; so when his hands are freezing, they can get hot.’ Similarly in the creative challenge the same child chose to diversify the way paint could be applied by using her fingertips and then her hands and arms! The team also noticed increased confidence in the children participating in the project. Over the series of enrichment projects the children became more keen and excited to become involved. They also became more confident in using their limited communication skills, not only in the small group context but also back in the classroom, as reported by their class teacher. Over time the focus children demonstrated progression in their sustained thinking skills and their ability to work collaboratively in a focused way.

Designing the learning experiences with clear completion criteria so that the children would be motivated with a purpose, proved a successful component of the activities. Children were able to recognise the success criteria for each activity and appeared to take great satisfaction from this sense of completion. Some children demonstrated great persistence and task commitment. In the cube challenge, one child worked individually and independently for over one hour on one complex pattern that she successfully completed. Her ability to spot the pattern making potential of the cubes was immediate and she proved to be a methodical, logical worker. Another group of children completed a 3D pattern in the cube challenge and carefully used all the cubes to create a symmetrically built structure. One child said ‘ We nearly done it.’ as he placed the final cube on the model. His class teacher was surprised to hear he had completed a task and worked successfully with a group as this is rarely the case in the classroom.

Following the research project, class teachers commented upon a positive change in the learning behaviour and confidence of the children involved in the projects. Some of the children proved more likely to participate in new activities and were more assertive in giving their opinions, using their communication skills or modelling something to the class. There was also a definite improvement in their collaborative work. One child in particular had previously relied upon physical assertion to get his point across and now showed increased use of gesture and language in his negotiation. This meant he was more likely to engage with the task and sustain his thinking.

What can be learnt from the teachers' action research?

In relation to children's learning

- Gardner's (1993) multiple intelligences can be used to identify young, able children.
- It is possible to identify able EAL children from their interactions with tasks designed to address particular learning needs.
- The opportunity for high quality, small group, enriched experiences raises self esteem and confidence which had an identifiable impact on learning behaviors.
- Children with EAL can gain confidence as risk takers and leaders during one enriched learning experience and across a range of such learning experiences.
- Young children's concentration spans can far exceed expectations and young children
  children can demonstrate determination, persistence and resourcefulness over sustained periods of time
  Group dynamics in a collaborative setting play a significant part in the outcome of the learning experience

In relation to curriculum provision

- Mini enrichment tasks which satisfy the following criteria facilitate the identification of able children with English as an Additional Language:
- 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
- large scale
- no space or time constraints
- It is possible to use the assessment / identification process integral to mini enrichment projects to provide evidence for the Foundation Stage profile and particularly for the knowledge and understanding, and creative & personal and social.areas of learning.

Further Research Possibilities

- Develop activity packs which include assessments of behaviors to observe in order to help identify potential talent.
- Develop further activities to support identification of potential talent in other curriculum areas.

Useful Publications

Gardner, H., (1993) Multiple Intelligences, New York: Basic Books

Koshy, V., (2001) Teaching Gifted Children 4-7, London: David Fulton

Renzullii, J., (1994) Schools for Talent Development: a practical plan for school improvement, Connecticut: Creative Learning Press

Wallace, B., (2002) Teaching Thinking Skills Across the Early Years, London: David Fulton/NACE

Winstanley, C (2003) 'Gifted Children with Hearing Impairments' in Gifted Children with special Educational Needs: Double Exceptionalities (ed) Diane Montgomery, London: David Fulton

Vialle, W., Paterson, J., (1998) 'Gifted Students with Hearing Impairments: Suggestions for Teachers' in Gifted Education International vol.13 no.1 pp13-22

Exemplar Mini Enrichment Projects

Each project satisfies 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
- large scale
- no space or time constraints

The Water Challenge

- Designed to identify spatial and interpersonal intelligence in particular.
- Children are challenged to move water from one water tray to another with gesture and simple verbal instruction.
- Children are provided with a variety of containers, tubes, pipes (some of which is unfamiliar to them).
- Children can work for as long as they need over more than one session in the outdoor area.

The Cube Challenge

- Designed to identify logical-mathematical intelligence and spatial intelligence.

- Children are given the opportunity to identify the pattern making potential of a set of foam cubes. Each face is different and contributes to a different pattern or picture of six varying levels of difficulty. Children can work for as long as they need over more than one session in the indoor or outdoor area, either independently or collaboratively.

The Shelter Challenge

- Designed to identify spatial, interpersonal and bodily-kinaesthetic intelligences in particular.
- Children are challenged to make a shelter for a bear that is big enough for the bear and themselves to fit into through simple pictorial instruction.
- Children are provided with a range of structures (for example, PE equipment, benches, crates, boxes and tyres) and fabrics (large and small scale). A variety of joining equipment such as pegs, tape, string and rope are also provided.
- Children can work for as long as they need over more than one session in the outdoor area.

The Creative Experience

Designed to identify musical and creative intelligences.

- Children have the opportunity to work creatively on a large or small scale.
- Children listen to two contrasting pieces of music. The music is specially chosen for its strong rhythm and repetitive melody. Its lack of lyrics makes it accessible for EAL children and the low frequencies make it accessible for some hearing impaired children.
- Children are provided with a range of media including decorator's and classroom paint brushes, felt tips, chalk, charcoal and crayons. Big paper such as lining paper will allow for freedom of creativity and work in groups.
- Children can work for as long as they need over more than one session in the indoor or outdoor area.

11. Investigating the role of the Creative Arts in extending the gifted writers in Key Stage 1

Contact person Lynne Palmer
Primary Inspector, Richmond-Upon-Thames
L.Palmer@richmond.gov.uk

Participating School: Hampton Infant School
Damian Burke, Head Teacher
Susan Cooke, KS1 Co-ordinator

Action Research Aims

To discover whether Art and Drama can be used to enrich and extend gifted writers in Key Stage one.In particular, to find out whether these creative disciplines would:

- Enrich the pupil's written vocabulary and descriptive language.
- Improve the imaginative quality of their written work.
- Give them more control over their choice of genres for writing.
- Influence the pupils' enthusiasm and self esteem as writers.

Background context

This project originally involved a partnership between Hampton Infant School and Kew Riverside Primary School who had intended to explore the identification of talented musicians in Key Stage One. Kew Riverside had to drop out of the project at a very early stage so in order to make the project manageable for one school, we decided to narrow the overall focus to Art and Drama.

The research developed in three distinct yet interrelated phases:

- Establishing cross phase collaboration with Secondary drama specialist colleagues resulting in a dance workshop to celebrate David Garrick Day.
- Developing curriculum activities involving:
  i) drawing characters from shapes. (October 2004);
  ii) writing scenes for the Christmas play from dramatic improvisation, a comparison between gifted writers and gifted speakers. (November 2004).
- Working with an artist to explore 2D and 3D artwork and their effect on children's writing.

The Art and Drama work was planned with Howard Gardner's Multiple Intelligences as the underlying principle in order to appeal to different learning styles and interests. The teacher/researcher made use of informal and formal observations, video and discussion with the pupils to monitor their progress. Video, observation notes,

transcripts of audio tapes and children's comments were collected as evidence as well as samples of written work and artwork.
The video, audio transcripts and writing samples were analysed for direct references to the experiences the pupils have had in their use of language or imagination. Informal observations and children's comments have been used to assess their self-esteem and enthusiasm for writing before and after the experiences.

Research Participants

For the first part of the study in June 2004, twelve of the most able writers in year 2 were selected.
For the main part of the study from October 2004 to January 2005 six children were chosen from year 1 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 doing PIPS in 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 teachers' research in action: what actually happened

Phase 1: Establishing cross-phase collaboration: Dance Workshop

The research began by tapping into the creative arts expertise of secondary colleagues in our link secondary school, Hampton Community College. Hampton was about to celebrate David Garrick Day, at his riverside temple, and so we asked the Drama department at the college to devise a dance workshop for our year 2 group based on a shipwreck theme linked to 'Twelfth Night' which our children had seen at The Orange Tree Theatre in Richmond. The workshop incorporated learning some simple dance moves and a performance to a tape of sound effects which included the sounds of the waves, the ship's timbers creaking, the crash of the mast breaking and the storm building. The teacher involved had planned the session with a group of her year 9 students who acted as leaders for the younger children.

There were mutual benefits in this collaborative venture. The Yr 2 children came away from the workshop feeling they had done something very special whilst the secondary drama teacher was able to motivate her students in preparing ideas for younger pupils and working to earlier key stage targets. The year nine students were good role models for our year 2 children particularly as they included two boys. This ensured full participation regardless of gender.

Later in the summer term, the drama department in the college asked their pupils to write and perform a puppet show for our Foundation Stage children, working to the early years targets. This was a great success and some of these very young writers were able to send simple thank you letters to the senior pupils including big brothers and sisters.The follow up writing revealed that out of this group of twelve, only one, Molly,

would be classified as a gifted writer. This had been a recurring theme in our project findings. Molly's imaginative vocabulary conveyed a strong sense of sound and movement that had obviously been stimulated by her experience in the workshop. Molly is also a gifted gymnast with bodily/kinesthetic intelligence so this kind of work exactly suited her learning style.

Phase 2: Developing curriculum activities:

i) Drawing characters from shapes

Based on an idea from Anthony Browne's book 'The Shape Game' we wanted to explore whether drawing would help children visualize characters and plots for stories. One person draws a shape and the other turns it into something by adding to it. The children enthusiastically turned six shapes from the book into a duck, a frog, a guitar, a weather vane, a sock and a snake. Their subsequent challenge was to get all of these things into a story! This group rose to the challenge and amid much excited dialogue began to put together a story with the teacher scribing their ideas.

The activity was very successful in motivating this group of writers. All wanted to write after the session including two boys, Alex and Jo, who normally would not choose to write a story narrative but because the writing was shared and scribed, it gave them the confidence to try it for themselves.

The oral nature of the work enabled the children to build on each other's ideas and even extend each other's sentences or vocabulary. An example of this is when Ruby suggested that the snake be 'A curious snake' and Maham replied 'A wise and curious snake' or Joe insisted that the story must have a problem 'because all stories have some kind of a problem'. Children with highly developed interpersonal skills thrive on this interaction and because the teacher is acting as scribe there is plenty of scope for oral decision-making and problem solving. This makes it a suitable classroom activity enabling all levels of ability to respond in their own way, using their own particular intelligences.

Nevertheless, although drawing the pictures seemed to help the group to visualize their characters, the two dimensional quality of the shapes resulted in a story that did not contain any character description. We decided to try out some 2D and 3D art as a next step in order to see whether this made a difference to the depth of the children's writing (Part 3 of the project).

ii) Writing scenes based on improvisation

This was originally meant to involve only the same group of year 2 gifted writers but evolved into a comparison between gifted writers and children who excel at role-play. The objective was to discover whether improvisation would have an impact on the pupils' ability to write a simple, imaginative scene, the context being the annual nativity play. However, it soon became apparent that these children, although they had risen

magnificently to the challenge of creating a story from drawings, were quite self-conscious about acting and improvising and needed a lot of input. The resulting scene – again scribed with the children – lacked any originality and felt quite stilted.

The year two teachers identified some extremely imaginative pupils who excelled in their oral work including role-play and so, we decided that this work was worth repeating with this particular group of children. Could these gifted speakers be emergent gifted writers? Once the scene had been set, this group immediately began to rearrange the furniture to make sheep pens, shepherds huts and a fire. They instantly became shepherds and took on self assigned jobs that they maintained throughout with great confidence. The only teacher intervention needed (and this was done in role as another shepherd to maintain the momentum) was to move the action on or to introduce another character. This session was taped and when we listened to the tape afterwards they were asked to choose their 'best bits' to write into speech bubbles. The children then decided which order to put each speech in, drawing arrows to link each bubble so that it could be rewritten as play dialogue.

This group showed talent in being able to organize themselves as a team and in becoming characters. There was a constant flow of ideas. Some of the group demonstrated significant interpersonal skills in being able to influence decision-making. An example of this is when one boy drew up a rota for wolf-watching duty based upon people's birthdays. The work also allowed for children's interests to come into play. Joshua has a fascination for science so he was able to explain to the others how to get the fire started by rubbing sticks together while Claire decided that all the shepherds should have some toasted marshmallows and showed them how to do it.

Although ideas were scribed for the group, all of the children wanted to write their own ideas on their own piece of paper and then did so. Although the results are more limited and simpler in structure than the writing of the gifted writer's group, there was as much enthusiasm about writing. Once these children have mastered the mechanics and technique of writing, it would be interesting to monitor their development at a later stage.

Phase 3: Working with an artist

The aim of the third part of the project was to discover whether working with an artist rather than the traditional author would have any impact on our gifted writer's use of vocabulary and imagination. We invited Lyndsey Kennedy-Smith who is very experienced in working on art projects in schools to work with a group of six gifted writers from year one and the group for year two. The year ones would work on a 3D project and the year two's would work on a 2D project so that we could make comparisons of the effect on the children's use of oral and written language.

Building a Space Ship (Year 1)

Lyndsey chose 'Q Pootle Five' by Nick Butterworth as a starting point and with the group worked on a design for a space ship. Ideas included using swiveling hair driers to

steer and a TV screen ‘to show the pilot where he’s going’. The girls were noticeably quiet during this exchange as well as during the building of the final rocket model until Lyndsey asked them to think about the interior of the ship and what the passengers would need to make them comfortable. The girls then decided to put some wallpaper in the cabin, make a picnic to put in the boot and some presents to take to people on other planets. The boys were much more interested in the mechanics of the rocket including the engines but gradually became fascinated by the making of food and presents as well.

The model was made from very large boxes. This was deliberate because, as Lyndsey said, in a large-scale project there are more opportunities for teamwork and collaborative decision-making. These children, having had plenty of collaborative experiences in Foundation Stage, worked comfortably together and there was a constant flow of language including thinking out loud.

The 3D work provided many opportunities for writing as part of the process. Ben, for instance, spent a lot of time labeling the parts of the ship. In the cockpit he wrote ‘Always wear your seat belt’. He made a registration plate for the back saying ‘Hampton rocket factory, Ripley Road’ and several labels for the engine parts. Inside the cockpit, he carefully drew a star map with all the planets labeled to guide the pilot ‘in case he gets lost’. He later wrote an advertisement for the rocket saying ‘Always use unleaded in this rocket.’

The 3D work also offered the children a greater choice of genres for follow up writing like Ben’s ‘For Sale’ advertisement, Rebecca’s story in which she includes some of the technical language she had heard and Felix’s enthusiastic account which ends with ‘We had some ideas and they were fantastic.

Collage and colour (Year 2)

The starting point for this was ‘The Snow Bear’ by Piers Harper. Lyndsey then discussed colours in relation to feelings and asked the children to make colour wheels with tissue circles and to draw objects or feelings they associated with these colours. In the next session, she brought in a variety of collage materials in cool colours so that the group could make a collage picture based on the Snow Bear story. She wanted them to think about textures more than representational pictures but the boys were better at this than the girls. The girls wanted to create lovely, neat pictures of the polar bear in the snow while the boys were much more interested in the technical aspects of layering materials.

The collage group’s follow up writing made fewer references in its use of language to the artwork but one exception was Isobel who referred to colours and feelings in her story setting. She describes the little polar bear seeing water for the first time. He came to ‘a reflecting thing. It was blue and shiny, glimmery.’ Other writing from this group made more reference to the original story. However, Joe and Alex, having been

enthused by the arrangement of the colour wheel, wanted to go and make a book about colours. They worked together on this for a week and became so attached to their book that anyone borrowing it made them very anxious.

What can be learnt from the action research?

In relation to children's learning

- Care needs to be taken to identify 'gifted' from 'more able' writers. There may be more able writers in school but gifted writers are rare and really stand out.
- Enthusiastic responses to a challenge is a common characteristic of gifted children : 'Oh good! We love challenges!'
- Some girls can be less confident with 3D construction and direct intervention may be needed to bring them on board and to engage their own strengths, for example, for some girls this may be within the realm of interpersonal intelligence.
- Collaborative work across schools and phases is mutually beneficial. Younger children can experience good role models which challenge gender stereotypes. Older pupils can be motivated by projects which focus on representing aspects of the Foundation Stage curriculum.

In relation to curriculum provision

- Collaborative work across schools and phases is a 'free' resource and enables specialist teachers to share their expertise.
- Inviting artists into school gives the pupils hands on and visual experiences as a springboard to writing. This kind of artwork could also easily be used in class to extend all pupils.
- Both 2D and 3D artwork enables children to employ their own learning styles and intelligences.
- Large scale 3D art work (for example, space ship building) provides greater scope for the development of team work skills.
- The interactive nature of large scale 3D group work ensures a constant flow of language including oral problem solving and decision making. Such rich language experiences are often prompted by the kind of activities that happen in the Foundation Stage and this needs to happen across all year groups.

Further Research Possibilities

- Working with an actor – further investigation into using role-play and improvisation as a springboard to writing including reintroducing role-play into the year 2 classroom
- Further investigations into collaborative work at school level with colleagues across phases and at subject specific, classroom level, for example, could 2D collaborative artwork have more effect on gifted children's imaginative language?
- Exploring gender differences in children's approach to artwork and their subsequent written responses.
- Gifted writers assessing their own progress using the Formative Assessment model.

Useful Publications

Browne, A (2003) The Shape Game, Farrar, Straus and Giroux

Butterworth, N., (2001) Q Pootle Five', London: harper Collins

Gardner, H., (1993) Frames of Mind, New York : Basic Books

12. Provision for Gifted and Talented Children at Foundation and Key Stage 1

Contact person: Viki Muller
Viki.Muller@suffolkcc.gov.

Participating Schools: Highfield Nursery School
Castle Hill Infant School

Action Research Aims

- To develop a set of appropriate enrichment activities to enable teachers to identify young, very able children.
- To expand on and target specific thinking skills tools, personalised to the children's interests and learning styles.
- To pilot a workshop for more able children and parents to promote suitable activities for families to enhance children's learning.
- To pilot a model of identification of young, more able children based on the developed enrichment activities.

Background context

At the outset of to research project, staff from Highfield Nursery and Castle Hill Infant School used a range of ideas from existing research to support the process of identifying young gifted and talented children: Gardner's (1993) theory of multiple intelligences; the 'Nebraska Starry Night' (1997) model (used to identify abilities such as fantasy/imagination, sensitivity, vocabulary and curiosity); Renzulli's (1994) Three Ring Model of task commitment, creativity and above average ability. Questionnaires were also sent home for parents to complete although only a limited number were completed and returned.

Highfield Nursery School identified four children who had strengths in particular areas of learning and subsequently were supported by a Nursery Nurse who was responsible for developing their particular areas of interest. Staff also identified that as well as demonstrating strengths, each of the four children showed weaknesses in personal, social and emotional development, in particular with making relationships with other children. They identified that the children became very animated, motivated and enthusiastic about their learning when they were supported by an adult, but responded in a completely different way when they were left to make independent choices. A mind map for each child was then drawn up to demonstrate the different factors that influenced their learning.

The four children's abilities and interests were identified as being the following:

- Grace is visually impaired and has virtually no sight. On the Nebraska model she exhibited several of the identified behaviours such as humour, imagery, sensitivity

and vocabulary. Her greatest strength was her musical intelligence, in particular music and rhythm.

- Kain is a lively child who, on the Nebraska model demonstrated behaviours such as sensitivity, exploration and observation skills. On the Gardner multiple intelligences he was identified as having logical/mathematical and naturalistic intelligences.
- On the Nebraska model Jack was identified as demonstrating knowledge (in particular, geographical knowledge), fluent vocabulary and the ability to focus.
- Alice is very independent and focused on her learning. She is imaginative and used this talent to construct novel designs. Her vocabulary is fluent and expressive. Alice likes to write down her stories. On the Renzulli Three-Ring model she demonstrated task commitment, creativity and above average intelligence.

Research participants

For the purposes of the research project, two children, Grace and Kain were selected as a focus for more detailed case study work. A journal containing transcripts, photographs and graphic documentation to show each child's learning journey was started at Highfield Nursery and Castle Hill Infant School continued the process. A two way professional working relationship was developed between practitioners from both settings and the involvement of parents became a key feature in supporting the children's interests outside the school environment.

The teachers' research in action: what actually happened

i) Curriculum enrichment

At Castle Hill Infant School Grace's musical gift, in particular drumming, was used to support her story telling and imaginative role play. She was involved in using her drums to retell the weekly big books. Grace took this a step further by using her talent to create her own story extensions and new versions.

After reading research into "over excitabilities" (Dabrowski, 2002) staff felt that this related to observations of both Grace and Kain. Dabrowski stated that, "those with strong over excitabilities have more intense than usual experiences of life and that these feed, enrich, empower and amplify talent". Kain was identified as demonstrating elements of "psychomotor over excitabilities, a surplus of energy" through examples such as rapid speech, pressure for action, restlessness, impulsive actions and competitiveness.

The enrichment activities that were provided at Castle Hill Infant School were provided as part of the provision to all children in the class. They were carefully planned to ensure the development of higher order thinking skills, as identified in Bloom's taxonomy, and had multiple outcomes dependent upon an individual child's ability and learning styles. The activities were also carefully planned to ensure that they were within each child's Zone of Proximal Development (Vygotsky, 1978) and thereby providing the right level of challenge.

The activities were based upon an approach to the development of problem solving and thinking skills tools across the curriculum known as “Thinking Actively in a Social Context” (Wallace, 2002). This approach acknowledges that, “all children can think and can learn to improve their thinking so that they become efficient learners”. This was evident in the development of Kain’s problem solving skills through sensitive adult scaffolding and encouragement of collaboration and team work with peers. It is embedded in the principle that “all children start by wanting to learn, but that they need to be interested and have ‘hands on’ experiences if they are to remain engaged and eager to learn”. This was achieved through the inclusion of special interests across the curriculum and the effect that this had on both Kain and Grace’s motivation to learn.

The approach also recognised that “children learn best through real life activities; where what they know already is the key place from which to start extending their learning”. This was seen through the children’s development as real learners, through their involvement in setting their own learning challenges and identifying the next steps in their learning. Evidence of this was seen in the learning journals, through child conferencing notes and general observations within the case study files.

The TASC approach understands the high importance of the “social context; interaction, sharing and co-operation”, whereby “learning to work with others is a major factor in emotional and social development”. This particular point was a key concern for both children.

ii) Enhancing the home-school partnership

Castle Hill Infant School staff hosted “The Creative Thinking in Partnership Meeting” in October 2004. The need for this meeting arose from the lack of parental response to the original questionnaire. Staff decided to modify the 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 staff 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 that they had been given.

The staff wanted the modified questionnaire to be used as the basis for the first parent/teacher consultation evening in order to show that parents’ responses and observations were valued. At the meeting each question was clarified and examples given. The parents were asked to complete a simple observation of their child and a proforma was provided for this. It was felt that the observation would give them the information to help them complete the questionnaire. Staff wanted to use the

observations to gain the whole picture of the child and inform them about how to enrich and extend the children's individual gifts.

Thirteen out of a possible fourteen parents in the reception class brought the completed questionnaire with them to their child's first Foundation Stage Profile meeting. Parents commented that it had encouraged them to take a step back in order to consider what their child's play was showing them in respect of their interests and understanding. They were able to talk about how behaviours exhibited by the child and patterns in their child's play had helped them to identify their special interests and thereby help them to provide more appropriate activities in the home setting. Staff at Castle Hill Infant School then shared with parents the children's response from a previously held child conferencing session alongside observations that they had made on the child. This helped all adults to decide upon the "next steps" for the child's development. Parents appeared confident when talking to staff about the ways in which their child was smart.

A number of parents chose to start up individual "I like learning about" journals with their children. Areas of interest included transport, paintings, music, dinosaurs, animals and singers. The KWFL grids completed with the children at school provided parents with a clear structure, which enabled to them to undertake activities within the journals. Children felt empowered and in control of their learning as they had decided what it was that they wanted to find out about. Staff felt that the "F" ("How can I find this out?") part of the grid provided them with a tool for modelling and developing appropriate thinking and problem solving skills. Alongside these it also ensured that activities undertaken would take the child's preferred learning styles into consideration.

iii) Children, parents and teachers working together

Staff at Castle Hill Infant School involved all the reception children in a short child conferencing session. This was based on an example included in "Listening to Young Children – The Mosaic Approach" (Clark and Moss, 2001). The children's responses were shared with their parents at the initial consultation evening. Staff wanted to ensure that the children were able to talk about what they felt they were good at and what they wanted to do to develop this. They believed that this ensured that the children were motivated and switched on at a level that they felt to be appropriate to their personal gifts. Children were involved in setting individual challenges and problem solving, questioning and reflecting on their learning and identifying their own next steps in their learning. Staff also gave children responsibility for their own learning and taught them early tools for thinking.

Parents were introduced to "The I like learning about…." journals in October 2004. These were intended to enable the staff to use the information about children's specific interests that had been acquired from observations and child conferencing to make personalised home/school journals for each child. The topic/focus area for the journal would be decided in consultation with parents and children. A KWFL grid was completed at school to record the children's thinking and to involve them in planning suitable activities and the next steps in their learning. The journal was used to record

the children's responses to activities completed at both home and school. The staff felt that this method would be a good way to sensitively model appropriate activities for parents without putting undue pressure on them.

Grace and Kain's parents both agreed to work alongside their child to complete an "I like learning about" journal. Grace's was focused on "singers" and in particular those who she felt "sang songs in different ways". This focus enabled staff and parents to link both Grace's interest in vocabulary and music with her preferred auditory and tactile learning styles. At this time, Grace became interested in the television programme "Celebrity Strictly Come Dancing", and in particular, Aled Jones. Staff used this interest to develop Grace's physical skills through the integration of simple dance steps into her gross motor development programme. A CD of Aled Jones singing with a choir was played at snack time to encourage Grace to interact positively with her peers about the music and to share her ideas and understanding about the rhythm and lyrics that she could hear.

After discussions with both Kain and his parents, Kain chose to focus his journal around "dinosaurs". Kain's parents planned and undertook a trip to the National History Museum in London. The school loaned Kain a camera to record images that he could share on his return to school. The nature of this trip and the method of recording were supportive of Kain's visual and kinaesthetic learning styles. He was keen to talk to staff and use the visual imagery on his return to school. This enabled him to discuss the length and heights of different dinosaurs and supported the aspect of mathematical development that had been agreed as an area for enrichment that had been agreed between staff and Kain's staff at the Foundation Stage Profile meeting. After this journal was completed, Kain identified that he would like to start a new journal around the theme of spiders.The children were proud of their journals, happily using these to reflect upon their own learning and "next steps".

What can be learnt from the teachers' action research?

In relation to children's learning

- Using differing theoretical models in the identification process ensures a detailed and holistic picture of children's abilities and interests.[1]
- All children have special interests. Gifted children will explore and develop these in greater depth and detail.
- Children and parents can provide useful additional insights into individual learning needs.
- Conferencing with very young children is highly motivating and encourages children to take some responsibility for their own learning.
- There can be a discrepancy between what young children know and what they can do.
- Interests and talents in one field can be used to support learning in another area.

- Gifted children can require support in developing their interactions and relationships with their peers.

In relation to curriculum provision

- Enrichment activities need to be based around the children's interests and become part of the delivered curriculum for all children.
- Theoretical models such as Bloom's (1956) taxonomy of higher order thinking skills and Wallace's (2002) Thinking Actively in a Social Context (TASC) can be used to support the development of a curriculum that enhances children's problem solving and higher order thinking skills.
- Involving parents is important in order that children's interests can be supported and nurtured outside of the school environment.
- 'I Like Learning About' journals provide a shared home-school focus for developing personalised learning.
- Practitioners from different settings need to develop two way professional working relationships to address transition issues.

Further Research Possibilities

- continue to develop parent partnerships in learning
- investigate the role (s) of other professionals in supporting young gifted and talented learners
- track whether children's potential in the early years is realised in later schooling

Useful Publications

Bloom, B.S. and Kathnohl, D.R, (1956) Taxonomy of Educational Objectives. Handbook 1: Cognitive Domain, New York:Basic Books
Dabrowski (2002)
Gardner, H., (1993) Frames of Mind 2nd edition. New York: Basic Books
Gardner, H., (1993) Multiple Intelligences, New York :Basic Books
Renzulli, J., (1994) Schools for Talent Development: a practical plan for school improvement, Connecticut: Creative Learning Press
Vygotsky, L., (1978) Mind in Society. Edited by M.Cole, V. John steiner, S. Scribner and E. Souberman, Cambridge Mass: Harvard press
Wallace, B., (2002) Teaching Thinking Skills Across the Early Years, London: David Fulton
See also http://www.nde.state.ne.us/HAL/HiAbilityIDENT.pdf for the Nebraska Department of Education (1997) Handbook for the Identification of High Ability Learners

13. Developing Outdoor and Role Play materials to Foster Writing and Thinking Skills for Gifted and/or Talented Early Years Children

---

Contact person:	Derek Barnes Warrington LA **dbarnes@warrington.gov.uk**
Participating Schools:	Stockton Heath Primary, Sam Ryder, Rachel Geritas Gorse Covert Primary, Yvonne Coley, Marcia Atherton, Helen Gosney

Action Research Aim

To investigate the role of outdoor and role play activities in supporting:

i) the early identification of gifted and talented children
ii) nurturing young children's abilities and,
iii) the development of writing and thinking skills

Objectives

- To develop activities which enhance pupils' writing skills and their ability to analyse and solve problems
- To trial various role and outdoor play activities which have a clear focus on developing writing and thinking skills.
- To provide a package of ideas to support other teachers and teaching/classroom assistants, which assists the provision of personalised learning.

Background context

Staff from both of the research schools were interested in developing their own expertise within chosen fields (learning through play, writing, G&T), through research and development, and in one case through the Primary Leadership Programme. The schools welcomed the opportunity to work together to explore ways of combining their skills in the belief that what could be developed would be beneficial in developing best practice and extending learning opportunities for gifted and talented early years (and potentially, all) children (Eyre 1997; Montgomery 2000). Both schools are strongly committed to promoting enthusiasm, enjoyment and challenge for **all** learners with the aim of creating independent life-long learners. The proposed project is an integral part of both SDPs.

Research Participants

Five staff across the two schools were involved in the research: teaching staff; G&T coordinator and teaching assistants. A pilot project was planned and delivered in Summer 2004 with the main project in Autumn 2004. The children involved were in

Reception at the outset of the pilot research and followed through into Year 1 for the main project.

The teachers' research in action

In each school, children were identified as being more able in one or more areas of learning based on their progress through the early learning goals, practitioner observation and by referring to the identification section of the school's gifted and talented policy. In both schools the group also included some children of average ability as a control group.

Activities were selected on the basis that children demonstrate understandings better if they work with real objects and in a familiar environment (Dowling 2002). Open-ended activities were selected. Gorse Covert used Belle Wallace's TASC wheel to aid planning and to allow opportunities for the development of critical thinking skills (Wallace 2002). Stockton Heath's activities were developed alongside current medium term and short term planning.
The three pilot problem-solving activities all focused on developing writing and thinking skills:

- Transporting water from a fixed point to create a pond
- The Gingerbread Boy – developing an alternative river crossing
- Relocation of a role play area

Following an evaluation of the pilot research, the main project consisted of four problem solving activities:

- The Bear Hunt - Selecting and ranking items for a suitcase; selecting materials to build a shelter
- Creating a trap for the Big Bad Wolf
- Selecting and justifying items to send to Pirate Pete

All of these activities allowed for autonomy in learning – they involved children in making choices and taking decisions with scope for them to use their imaginations (Dowling 2002). In both the pilot and main projects time was given to enable children to reflect and draw on experiences - as Dowling puts it "to allow children's thoughts to incubate". Teaching assistants were involved totally in the planning process. The main project built on the lessons learned from the pilot including:

- Developing key questions to prompt and probe the children's thinking
- Amending activities to create opportunities for children to demonstrate different thinking skills

A variety of approaches was used to collect data, namely, practitioner observation, photographs with annotation, writing samples, case study diary and data display. Teachers and teaching assistants observed groups and recorded conversations with annotations and illustrative photographs (standard practice within the Foundation

Stage). To further develop metacognitive skills, the children discussed their thoughts and feelings about the activities as they viewed the photographs.

At Gorse Covert Primary the data was analysed by using Fisher's critical thinking skills list (Fisher 1997). Comparisons were made in the pilot project between the responses from the G&T target group and other groups of children. Judgements were achieved by consensus between three practitioners to eliminate as much bias as possible. The children's evaluations of the activities were also analysed by cross-referencing to Fisher's list. And finally, Bloom's taxonomy was used to refine the analysis yet further by enabling the children's thinking skills to be grouped so that the higher order skills could be identified.

At Stockton Heath Primary**,** detailed analysis of the recorded conversations and observations were made by highlighting and drawing out significant points. For the main project, the children's evaluations were analysed and an analysis of writing was undertaken by comparing the children's work with samples produced prior to the project. These were assessed against P-levels. For the main project, Fisher's critical thinking skills list was used to compare the response of different groups of children.

What can be learnt from the teachers' action research?

In relation to children's learning

The provision of open-ended problem solving activities enables gifted and talented pupils to continue to demonstrate their specific abilities. Similarly, critical thinking skills can be enhanced as well as attitudes towards writing and writing skills. Evidence from this project highlighted that,

- Children identified as Gifted and Talented display a greater *number* of critical thinking skills. One child identified as having well developed interpersonal skills showed a greater number of critical thinking skills than the other G&T children.

Child S "Build up and measure when it is big enough and then tow it." Child J "When (we) tow it, it will fall over again."

All the bricks fell over in the wind. Children started to build them again. The wind blew them over again. Child S "Will this keep happening?" Child J "Yes". S "I know what – the play dough is bendy. [Picks up plastic corrugated sheet] If J builds up side I can cut this and put it flat across and see if it fits."

The number of higher order thinking skills demonstrated were not affected although there was evidence of higher order thinking skills being developed e.g. prediction

Pupil L has put string on each end with blutac and put it in the water.

Teacher	"What will happen?"
Pupil J	"I know what will happen. (As it fell to the ground) – It's too thin."

- The open ended activities also assisted peer discussion leading to further creative ideas and allowed the children to make links to prior learning, for example,

Teacher	"One more thing?"
Pupil S	"Suncream".
T	"Suncream?"
S	"In case I go to the beach."
T	"That's a very sensible answer."
S	"(Pupil L) helped me with it."

- Problem solving tasks designed to enhance writing skills meant that children knew exactly what they wanted to write – content and understanding was clear and was articulated well.

Pupil M made the decision to draw a plan when solving the problem of getting Charlie Bear across the river.	
M	"I think we need a plan. I am going to draw a boat with a mast. I don't know if we have a long enough rope."

There was oral rehearsal prior to the writing task.

Pupil O	"Pete would be lonely if Beaky *(his bird)* went away, so the teddy bear would stop him from being lonely." *(drew on information shared at the beginning of the activity)*. Translated in the written form of a letter by Pupil O as…. "I want to send a Teddy to you because if your lonely you can cuddle up to it."

- Writing flows more naturally from open -ended activities and children can write more independently demonstrating persistence, positive attitudes and confidence with writing.
- Open-ended activities enhance children's understanding of the purpose of writing, genre, and writing for a specific audience.

<u>In relation to curriculum provision</u>

- The TASC wheel was an effective tool to plan open-ended activities for G&T pupils in the Early Years.
- Collaborative planning of activities with Teaching Assistants raises awareness of multiple intelligences and the value that should be placed on all 'intelligences'. Similarly, open-ended activity planning provides opportunity for the children to demonstrate they can makes links to prior learning.

- Giving children ownership of the activities and the time to follow through their own ideas whilst being challenged supports the identification of children's gifts and talent, which in turn informs subsequent planning and provision.
- Providing open ended activities assists the identification of particular thinking skills, which can then be used formatively in future planning. **All** children and not just the gifted and talented children benefit from this approach.
- The development of a questioning grid for staff to use with the children helps to promote metacognition and can increase the confidence of TAs to extend children's thinking by probing further. The grid can also provide strategies for scaffolding children's post activity evaluations.

Key questions: -	Why do we need…? How will we do a good job? What are the good points of…? How could we make these ideas better?
After the task:-	What were you thinking? Why did you think that would work?

- Using dictaphones to record conversations enables all practitioners to provide an evidence base for analytical assessment of children's abilities.
- Progress can be measured by using school pupil tracking systems. In this research, child A and child B met predicted levels at the end of Y1. Child C exceeded expectations. In the longer term all children on the G and T register can be monitored and tracked across age phases.

Further research possibilities

- Analyse the impact of incorporating open ended activities into curriculum planning for the Foundation stage and KS1
- Continue to explore and develop the role of the TA in gifted and talented
- With a wider audience, trial and evaluate the use of the question bank and activities to enhance writing and develop thinking skills

Useful Publications

Dowling M., (2002) Developing Potential in the Early Years. *Gifted Education International 2002 Volume 16 pp241-247*

Eyre D., (1997) Able Children in Ordinary Schools. London: David Fulton.

Fisher R., (1997) Games for Thinking. Nash Polloch

Montgomery D., (2000) Able Underachievers. London: Whurr

Wallace B., (2002) Teaching thinking across the Early Years. London: David Fulton.

14. The Identification of Gifted and Talented Children in Music at KS1

Contact person: Tricia Ellison
Senior LA Advisor
tricia.ellison@york.gov.uk
Gordon Pearce
Senior Advisor and Music Consultant :York
gordon.pearce@york.gov.uk

Participating School: Bishopthorpe Infant School, Headteacher : Rebecca White Linda Dolman (Music Co-ordinator and C/T) and Rachel Goodall (Class Teacher art, design and technology co-ordinator)

Action Research Aims

- To work with Y2 children to devise a series of activities, games and assessment materials for early identification of talented pupils in different aspects of music.
- To translate these materials into a publishable format to support non specialist teachers in KS1 to identify talented pupils.
- To develop and evaluate a programme of work that schools could deliver to classes containing the full ability range, in curriculum music time, which would (i) develop the musical knowledge, understanding and skills of all; (ii) promote children's engagement with music and foster the status of the subject.
- To develop teachers' understanding of the philosophy of international music educationalists.

Background context

This research project was embedded within the philosophy that, in effective schools, high quality provision for all allows for the identification of the exceptional child who is gifted and talented. High quality learning and teaching experiences benefit everyone, while simultaneously offering opportunities for the most able to flourish.

Materials and teaching strategies for music lessons were trialled in Phase 1 of the Project (summer term 2004) with 40 Year 2 children in two teaching groups. Successful materials were then taken forward by teacher colleagues into planning for a three block teaching programme to run from September 2004, within curriculum music time.

The Research School

Bishopthorpe Infant School is a school of 144 4 to 7 year olds situated in a village south of the City of York. There are 6 classes, 2 for each age group. The school has 8% of its pupils on the Special Needs Register but has no pupils with statements. There has been little staff turnover for the past8 years and the school has always maintained

particular strengths in the teaching of music and the arts. All of the pupils transfer to the juniors school in the village at year 3.

There is great enthusiasm and drive for music in Bishopthorpe Infant School. The Headteacher sees music as an important school focus and is happy with efforts to raise standards and achievement – music is on the School Development Plan. The initial assessments of the Year 2 cohort identified 10% of children with very good music potential. On completion of the first year of the Project between September 2004/July 2005, four pupils were identified as having a particular gift in music.

The teachers' research in action: what actually happened

At the outset, the music advisor in collaboration with the school's music co-ordinator, identified internationally regarded teaching materials that would:

- develop listening skills
- improve the quality and accuracy of the singing voice
- develop the playing of pitched percussion instruments.

The materials used were Rhythm Flashcards and backing track by Professor James Froseth (USA); "Am I Musical?"– listening games by Professor Edward Gordon (USA); "Let's Play Musical Games" – listening games by Mary Goodman (Hull); song materials using the concepts of Kodaly. Regular opportunities outside time-tabled lessons were also provided for children's independent practice of playing of tunes introduced in the taught sessions.

In parallel to the development of the teaching materials, the music advisor researched appropriate materials to support teacher assessment of pupils across a range of musical skills: pulse & rhythm; awareness of pitch; tonality; harmony. The assessment materials were trialled in Phase 1 of the research project and their use developed by the teacher researchers alongside the ongoing teaching programme in the main phase of the project. Teachers recorded their assessment of children's skills and abilities using a whole class 'tracker' which focuses on different aspects of music and is updated regularly. Giving the children opportunity to rehearse and perform in front of an audience provided additional teacher assessment time. An opportunity for pupil self-assessment was also provided. Children evaluated how well they could perform a known melody by ear and how well they could perform a song that had been taught. They recorded how often they chose to practice in their own time. Teacher assessment was aided by the use of Mary Goodman's written aural tests, Professor Edwin Gordon's test 'Am I Musical,' digital photography and video clips.

A structured programme of work for whole class use, covering three terms, was devised and implemented with two Year 2 classes (40 children), including 4 children on the special needs register and one child with specific medical needs. The programme was led by the school's music co-ordinator, working alongside a less experienced colleague who was not a music specialist.

Typically a music session lasted 30 – 40 minutes, took place in the school hall, with children seated in a horse shoe shape, with a range of tuned percussion instruments (one between two) arranged in front of them. A typical full class session would include

- a pulse and rhythm warm up, developing the ability to read traditionally notated rhythm patterns
- singing – developing pitch and the ability to hold an independent part
- opportunity to develop the ability to play known tunes by ear

What can be learnt from the teachers' action research?

In relation to children's learning

The impact of the structured programme on the children's musical development was considerable – all of the children were willing to perform in front of others whilst approximately 90% could:

- demonstrate a steady pulse
- read simple rhythm patterns unaided
- sing and play in time and tune
- sing with a good quality of tone
- play in time on tuned percussion instruments the songs they had been taught;

Approximately 60% of children could play known tunes by ear for example 'Twinkle Twinkle', 'Baa Baa Black Sheep' and 'Happy Birthday to You'.

At the same time, there was a positive impact on children's engagement with music and an improvement in the status of music. Teaching sessions were monitored regularly, with all observers commenting on children's levels of engagement and concentration, fostered through the very good teaching and class` management skills of both practitioners. Levels of engagement were further reflected by:

- children regularly choosing to practise in their own time.
- 40 children enrolling to learn to play the recorder
- an increase in the number of children accessing peripatetic music lessons - the school has moved from 0 to 7 violinists; from 4 to 11 guitarists (R to Y2)

In relation to curriculum provision

The structured programme for music teaching delivered a rich curricular experience for all children with musical benefits for all. At the same time, the programme impacted positively on the non specialist teacher's confidence in delivering music as well as increasing interest in the teaching of music from teaching colleagues outside the project.

Moreover, work in music had a significant positive impact on children's overall learning skills with, therefore, a positive impact on the wider curriculum. Children showed

- improved concentration over extended periods of time
- improved listening skills
- improved levels of collaboration
- noticeably improved levels of confidence in specific children
- enhanced performance in national measures of achievement[2]

To replicate the success of the Bishopthorpe Infant School project elsewhere there needs to be:

- an enthusiastic member of staff (not necessarily a music specialist) who is prepared to attend training;
- funding for a good range of instruments;
- a commitment from SMT and School Governors confirming that music is a priority within school so that funding can be targeted towards costs (training, resources) – parents may volunteer for additional fund raising;
- involvement of parents - following the identification of Gifted and Talented children parents would need further information and guidance regarding the next steps (further music tuition, professional advice to match a suitable instrument to child, financial advice)

Further research possibilities

- integrating the music programme within a cross-curricular approach to planning and curriculum provision
- addressing transition issues between key phases
- developing local partnerships and learning networks for music education

Useful Publications

Goodman, M. Let's Play Musical Games www.marygoodman.org

Gordon, E . Am I Musical and Froseth Rhythm Training, Chicago : GIA Publications, Inc www.giamusic.com

Gordon, E . Froseth Rhythm Training, Chicago : GIA Publications, Inc www.giamusic.com

Portsmouth Music Service Identification Chart – talented Musicians www.portsmouth-music-service.net/gifted.htm

Stocks, M (1995) The little songbook of Songs Children Sing London: Hummingbird Publications available from The Voices Foundation 0207 730 6677

[2] The 2005 PANDA showed the highest average points score for three years and reflects the highest attainment at L2+ and L2B+ for reading, writing and maths for three years. More able pupils performed very well with 46% of the children attaining L3 in reading, 31% in writing and 42% in mathematics.

Copies of this publication can be obtained from:

DfES Publications
P.O. Box 5050
Sherwood Park
Annesley
Nottingham
NG15 0DJ

Tel: 0845 60 222 60
Fax: 0845 60 333 60
Minicom: 0845 60 555 60
Oneline: www.dfespublications.gov.uk

Produced by the Department for Education and Skills

ISBN 1 84478 726 5
Ref No: RR741
www.dfes.go.uk/research