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Pedagogy and Possibility Thinking in the Early Years

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Abstract

Connecting to current work in the area of creative pedagogies, this paper reports findings of an exploratory study that sought to identify what characterises possibility thinking in young children's learning experiences and how teachers' pedagogical practice fosters this critical aspect of creativity. It focuses in particular on pedagogy, seeking to demonstrate how the approaches adopted nurtured the development of children's possibility thinking. Possibility thinking has been conceptualised as being central to creative learning although its role, as manifest in the learning engagement of children and the pedagogical strategies of practitioners has not been fully illuminated. The co-participative research team involved in this study comprised staff in an early childhood centre, in an infant and a primary school, working collaboratively with three university-based researchers. This twelve month long segment of a longer study employed various data collection methods including video-stimulated review to facilitate reflection, critical conversations, classroom observation, interviews and examination of planning documents. The paper illuminates the perspectives and embedded values that the teachers expressed whilst reflecting upon their practice, and highlights common pedagogical themes, including the practice of standing back, profiling learner agency and creating time and space. In addition, the paper presents a model for conceptualising a pedagogy of possibility thinking.

Introduction

A recent research and development project, undertaken by the Qualifications and Curriculum Authority (QCA) in England, aimed to help teachers both find and promote creativity (QCA, 2005a, 2005b). It proposed a policy framework for identifying and promoting creativity within the Early Learning Goals for 3- to 5-year-olds (DfEE/QCA, 2000) and the National Curriculum (DfES, 2000) for pupils aged 5-16. The framework characterises creativity in education as involving:

- posing questions
- making connections
- being imaginative
- exploring options
- engaging in critical reflection / evaluation (QCA, 2005a, 2005b).

It also focuses on the kinds of pedagogical approaches which it suggests enable creativity, including:

- establishing criteria for success
- capitalising on the unexpected without losing sight of the original objective
- asking open questions

- encouraging openness to ideas and critical reflection
- regularly reviewing work in progress (QCA, 2005a, 2005b).

None of the authors of this paper were involved in the construction of the QCA conceptual framework, although a literature review by Craft was commissioned at the outset of the QCA's work (Craft, 2001a). At the time of writing (July 2006), the QCA policy statement provides a frame for the work of early years practitioners and teachers in fostering children's creativity in England. The dissemination phase of this work encompassed a video pack containing five contrasting illustrative examples of this framework.

To an extent, the QCA conceptual framework reflects findings from the two-year 10 country European study in which creative engagement was seen to involve open adventures, enabling children to explore and develop knowledge through productive engagement with their work, as well as the opportunity to review both the process and the outcome of their creative engagement (Jeffrey 2005a, Jeffrey and Craft, 2006). It also reflects earlier findings in the field, which highlighted that innovation, originality, ownership and control were associated with creativity in primary classrooms (Woods and Jeffrey, 1996, Jeffrey, 2003, Jeffrey and Woods, 2003). The QCA framework includes the core element of imagination - imagining what might be – or possibility thinking (Craft, 2002), which this study seeks to expand further.

There are multiple models of 'everyday' creativity in existence derived from a variety of disciplinary and sub-disciplinary perspectives as documented elsewhere (Jeffrey and Craft, 2001), including those which tend toward emphasising the individual (e.g. in the early years Bruce, 2004 and Eglinton, 2003, and in primary education, contributors to Jones and Wyse, 2004). By contrast, others have explored collaborative creativity (e.g. Miell and Littleton, 2004; Miell et al, 2005). However, on the whole, studies undertaken in England have focused on the exploration of particular disciplinary areas rather than seeking to understand creativity across domains, and few have focused on 'finding' and 'promoting' creativity across the curriculum the classroom as QCA has done (QCA 2005a, 2005b).

Both the nature of creativity and how it is promoted in the classroom were explored in the current study, in collaboration with three of the teachers and others involved in the filming of the QCA video resource (QCA, 2005a). All the practitioner researchers and one of the university-based researchers in the study were involved in the QCA research and the dissemination of the framework for creativity in education. The current study focused on possibility thinking, and sought to consider the key tenets of a model for conceptualizing it, it also aimed to identify how teachers' pedagogical practice fosters this critical aspect of creativity. The conceptualisation of possibility thinking and attendant methodological challenges of researching this area have been documented elsewhere (Burnard, Craft and Grainger, 2006). In contrast, pedagogy and its relationship to facilitating possibility thinking are examined in this paper.

Exploring possibility thinking
It has been proposed that possibility thinking is at the core of creative learning(Craft, 2000,2001), that it can be understood from the tripartite perspective of people or agents, processes and domains and that it involves both problem finding and problem solving. Craft (ibid) also argues that possibility thinking is implicit in learners' engagement with problems, suggesting that it is exemplified through the posing, in multiple ways, of the question 'what if?' and that it involves the shift from 'what is this and what does it do?' to 'what can I do

with this?' This conceptualisation has been explored and validated through empirical work in primary classrooms (Jeffrey and Craft, 2004).

The present study sought to interrogate and build upon this earlier work, documenting and analysing characteristic features of possibility thinking in the early years. It also sought to understand how teachers foster possibility thinking in their classrooms and thus focused on the pedagogical strategies variously employed in each of three early years settings. Since this paper explores the connections between pedagogy and possibility thinking, the core areas of possibility thinking which were identified in the context of children's learning are initially shared. These include:

- Posing questions
- Play
- Immersion and making connections
- Being imaginative[1]
- Innovation
- Risk taking
- Self determination (Burnard et al, 2006).

A number of diagrammatic representations of these aspects of possibility thinking were developed in the study; the most recent of these reflects the integration of the creative teaching and learning that appears to nurture this critical aspect of creativity (see Figure 1).

Figure 1 An evidence-based model of possibility thinking (Burnard et al., 2006)
Figure 1 here (file is called figure 3 read as adobe pdf)

The key features of possibility thinking are seen to be contextualised by the overlapping domains of teaching and learning, and are themselves set within a wider circle that profiles the significance of the classroom and wider school context. External and internal enabling factors clearly surround and influence the playful endeavours of the teachers, shaping the pedagogic practice which fosters possibility thinking. In examining this practice and analysing the attendant pedagogical strategies employed, the research team acknowledges that 'pedagogy should be informed by a systematic collection of evidence rather than rely on ideological positions, folk wisdom and the mantras of enthusiasts' (Bruner, 1999:18). The current paper reports on the findings of a systematic collection of evidence.

Exploring creative pedagogies
Despite the well-recognised trend in England towards an increasingly centralised and technicist view of classroom pedagogy (Ball, 2003; Dadds, 1999; Jeffrey and Woods, 1998), exemplified in particular through the literacy and numeracy strategies(DfEE, 1998, DfEE, 1999), there is evidence that some teachers exercise their professional judgement and artistry and successfully develop creativity (e.g. Grainger, Goouch and Lambirth, 2005; Jeffrey and Woods, 2003; Larson and Marsh, 2005; QCA, 2005a). Both teaching for creativity and creative teaching deserve professional attention and exploration and since the perceived

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[1] Whilst play and being imaginative may co-exist (being imaginative may be involved in children's play and in being imaginative, play may be involved as Bruce, 2004 notes), we would argue that they are distinct, and that the play delineated here encompasses a spectrum which is broader than imaginative play and which includes playful engagement with possibilities in multiple contexts.

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distinctions between these terms are pertinent to this study they are now examined. It has been suggested that the former, teaching for creativity, is learner focused, whilst the latter, creative teaching, is more teacher focused (Craft and Jeffrey, 2004).

The report by the National Advisory Committee on Creative and Cultural Education suggests that the first task in teaching for creativity is 'to encourage young people to believe in their creative potential, to engage their sense of possibility and to give them the confidence to try' (NACCCE, 1999:90). It also recognises the need to encourage attributes such as risk taking, independent judgement, commitment, resilience, intrinsic motivation and curiosity, noting that in order to teach for creativity, teachers must identify children's creative strengths and foster their creative potential. A further element of teaching to enhance children's creative thinking or behaviour is proposed by Jeffrey and Craft (2004). This is seen as adopting an inclusive approach to pedagogy, inherent in which is passing control back to the learner. Thus teachers and learners enter a co-participative process around activities and explorations, posing questions, identifying problems and issues together and debating and discussing their thinking (ibid). Within such a learner inclusive pedagogy, it is proposed that the child's imaginative engagement with problems and their possibility thinking plays a central role (Jeffrey, 2005b).

Creative teaching is seen to encompass teachers making learning more interesting and effective and using imaginative approaches in the classroom (NACCCE, 1999). Research exploring the creativity of teachers has firmly established the presence of four core components in the art of creative teaching, including: innovation, ownership, control and relevance (Jeffrey, 2003, 2005; Woods, 1995, 2002). Additionally, curiosity, connection making, autonomy and originality have been documented as key features of the pedagogy and ethos found in the classrooms of highly creative professionals (Grainger, Barnes and Scoffham, 2006).

Teaching for creativity and teaching creatively, then, are closely interrelated and as it has been argued, their conceptual polarisation, implied perhaps by the very terminology used, may be neither necessary nor illuminating (Jeffrey and Craft, 2004). Rather, as the current study as a whole exemplifies, it may be more valuable to explore the connections between creative pedagogical practice and learning. Therefore the research team, through exploring the nature of possibility thinking in creativity, as manifest in pedagogical strategies of teachers and learning engagement of children, began to document and analyse the interplay between learning and pedagogy in the early years. This article focuses on teachers' views and recognises the importance of their contribution to understanding the way in which learners engage in possibility thinking.

Method
A case study approach was used to guide the data collection and analysis. The exploration of three core teachers provided the bounded system or cases investigated over time through detailed data collection involving multiple sources of information (Yin, 1989; Creswell, 1994). In this slice of what constituted a larger study, (one part of which is reported elsewhere (Burnard et al., 2006), the teachers' practices were considered separate cases, as they were selected from a variety of early years settings in three areas of the country. The teachers were identified as creative professionals through their involvement in the earlier QCA research. The reflective documentation of their experience and practice was undertaken through the use of interviews, observations and whole group data surgery sessions. The study

sought to enrich the thinking and discourse of both the practitioners and the researchers through such systematic and reflective documentation (Stenhouse, 1975).

Introducing the settings
At Thomas Coram (the Early Childhood Centre), teachers aim to provide integrated care and education working in partnership with parents and carers. The Centre provides places for children from six months to five. Children come from all sections of the local community reflecting the cultural, religious and linguistic richness of this inner-city area of London. The multi-disciplinary team believes that creative thinking and active learning enable children to develop the sense of self-esteem, resilience and coping strategies needed for life. Teachers devote time to exploring the creative process and what it means to be a creative teacher and thinker.

At Cunningham Hill in Hertfordshire, (the Infant School), the emphasis for teachers and teaching assistants is on facilitating the transition from home or previous setting to school by making relationships with the children prior to entry. The children's ownership of space and the contribution of their ideas to the development of the learning environment, in particular through interactive display, are profiled highly. The time spent on developing their skills and knowledge to facilitate this co-participative approach creates enabling conditions, and is combined with real knowledge about each individual and their context.

At Hackleton in Northamptonshire, (the Primary School), creativity is at the core of the curriculum combined with a specific commitment to fostering responsibility and independence. Teachers plan for creative teaching and learning in response to the children's questions and interests about a particular focus. Research, reasoning and recording are seen to be essential complements to the traditional '3 Rs' and the emphasis is on children working in teams, experiencing and exploring whilst teachers frame opportunities and act as guides.

Data collection
The first stage (September-December 2004) focused on in-depth focus interviews of the individual teachers. Video-stimulated review (VSR) was used to stimulate reflection along with the charting of critical incidents and phases involving possibility thinking (Walker, 2002; Zellermayer and Ronn, 1999; Sikes, Measor and Woods 1999). This provided teacher accounts of how possibility thinking is fostered. During the interviews, the teachers selected critical incidents and extracts to review from the original QCA video filmed in their classroom. The process of VSR and discussion with their university research partner enabled these professionals to reflect on their pedagogical practice afresh.

The second stage (January-April 2005) involved university researcher classroom observation (3 x3 hours per class). This required these researchers to enter the complex learning communities of each educational setting to observe the teacher's strategies. In both stages the researchers sought to enable the teachers to undertake reflection on-action and in-action (Schon, 1987) through reflective discussion of the features and practices observed, through the use of VSR and whole group data surgeries. This reflective documentation was undertaken in order to identify and characterise common pedagogical strategies which promote possibility thinking.

The third stage (April-September 2005) involved the clarification, testing and triangulation of research findings along with the collection of a further 15 hours of videoed observations (1x 5 hours per class). Since the QCA video had been made for the purpose of disseminating

creative practice, it was decided to video unedited material for the third stage. This material encompassed both teachers and learners engaged in a diverse range of everyday classroom practices and observation of a small group of learners selected through opportunity sampling. Although the data from this stage is not reported here (involving micro-event analysis of children's engagement) it was considered to offer triangulation of the data in relation to what constitutes possibility thinking.

Data analysis
The data analysis in this investigative study encompassed several phases. The teachers engaged as co-researchers and co-learners, with the balance shifting see-saw like throughout. They were involved in two of the three phases; the first phase involved them in VSR and in being interviewed, the second phase involved observations of teacher-pupil interaction in the playful classroom contexts (Broadhead, 2006). In the case of professional learning through the teacher-university partnership, this occurred in and through the fieldwork and the follow-up data surgery meetings. During this process of reflection and debate, a critical analysis and synthesis of the conceptual model of possibility thinking emerged (Craft et al., 2005; Burnard et al., 2006). The conceptual framework used to guide this phase of the analysis was Craft's (2002) earlier conceptualisation of 'possibility thinking' linked to the QCA (2005a, 2005b) framework. The researchers also worked inductively re-analysing the data for emergent categories which related to teachers' creative pedagogies (Glaser and Straus, 1967; Strauss and Corbin, 1998). The third phase involved the reading of new data and re-reading of old data by the university researchers with a focus on specific pedagogical strategies.

The case, then, was the teacher and the unit of analysis the specific pedagogical strategies in use. Interesting quotations and activities were initially marked to generate categories and patterns and these were given codes. After coding the data and looking for specific incidents of learner engagement in possibility thinking, common categories and themes across the three cases (i.e. the teachers' practices) were sought, which were confirmed by the teachers. Patterns not substantiated by triangulation were omitted as potential themes. This process was repeated until the data was saturated and a set of recurrent themes and stable categories of description for pedagogical strategies were identified (Altheide and Johnson, 1994).

What follows are examples of the three major themes that emerged from the collaborative interactions. These draw on multiple data sources, combining written evidence, observation, interviews and VSR in order to construct shared understandings of the pedagogical strategies which teachers used to foster possibility thinking with young learners.

Features of pedagogical practice which fostered possibility thinking
The pedagogical themes empirically grounded and common across all three settings namely, standing back, profiling agency and creating time and space, were operationalised by each teacher differently, in response to the particular socio-cultural learning communities of which they were a part in these very diverse school contexts. In this section the themes are exemplified through vignettes from each case study which demonstrate how the individual teachers shaped and applied these themes pedagogically thus fostering the development of aspects of possibility thinking in their classrooms.

An examination of the teachers' reflections relating to these issues now follows.

(i) Standing back

Standing back was evidenced as a pedagogical stance. What distinguished standing back was when and how often teachers positioned themselves, such that stopping and observing, and listening and noticing the nature of the learner's engagement was prioritised. This is characterised in the following example from the QCA video (2005a) which features a group of 3 and 4 year-olds engaged in a 'water moving problem-solving task'. This process began with teacher-delivered questions, resources, challenges, materials and tools and led to the children's hands-on experimentation moving water between receptacles. Reflecting later on this activity, the teacher, Ruth Hanson, from the Early Childhood Centre made the following observations:

> *The children posed loads and loads of questions. They set forth with so many really impressive possibilities for solving a problem by realising all types of lines of investigation through play. They built on previous experience to support and extend their learning. We deliberately planned the water activity to follow a series of previous activities during which children explored the properties of materials and objects within water. This exploratory time was really important … providing opportunity for children to talk about and… consider and weigh up the possibilities about the movement and flow of water and the potential use of tools, vessels used to control, pour and sift. The children drew upon past experience to make connections to solve problems and use materials in new ways… What I did was stop and stand back, observe and reflect, think and recognise, and acknowledge their thinking.*(transcript, p.4)

In this vignette standing back appears to represent a form of shared resource. In stopping and watching from outside the action, Ruth remains available to the learners, just as their actions and words are available to her. Noticeably, Ruth actively positioned herself with a sustained focus on these young learners which supported their capacity to be 'what if' choice makers. Here she comments:

> *It's all about observations and through these observations, listening to them, marrying up their learning intentions with their learning priorities, learning from each other, working together . . . using what's outside, what's inside to assist in their play and support their play. We're giving them lots and lots of opportunities but it's actually allowing them to play purposeful…. It's not me trying to show them how to use or do something. It's them in all ways. ..Through observing the children's play I've noticed that what's really important to them is where they're learning and how they are learning.(*transcript, p.7)

Standing back was considered central to learner ownership and engagement, fostering autonomy and the opportunity for children to follow their own interests and shape their learning so that it was individually tailored. Teachers looked for opportunities to stand back to enable learners to gain agency in their learners, which in turn enabled them as educators to notice children's behaviour and actions, imputing understanding of their thinking in the process.

By standing back, yet remaining focused on the learners the teachers watched as the children tried out new ideas, different ways of doing and seeing things. Standing back prompted the teachers to observe closely, examine, discuss and reflect deeply about learners' ideas in a way that highlighted the importance of 'what ifs' or possibilities in the creative learning process. It also allowed the teachers to notice unexpected actions, suggestions and

behaviours on the part of the children and build on these. Standing back was evidenced as a pedagogical strategy prioritised in each of the three settings, in which the teachers discursively positioned themselves as agents of possibilities; 'what if' agents. This gave the learners the chance to make choices, and take up positions as decision-makers in a way perhaps not normally available to them in school activity.

(ii) Profiling learner agency
In each setting the teachers prioritised learner agency, and provided multiple opportunities in which the children could initiate their own activities or make their own choices within a loosely framed activity. The teachers set up a range of individual, pair and small group collaborative opportunities that sought to help the young learners develop their independence and make their own decisions. In addition, it was considered important that the children were involved in jointly determining the direction of their work, thus enabling them to exert greater control over their learning.

Dawn Burns for example, the teacher in the Primary School, whilst clearly cognizant of National Curriculum requirements, planned each term's learning intentions based on the children's identified questions and specified areas of interest. In commenting on this co-constructed curriculum, Dawn observed *our young thinkers use their creative skills and ideas to enhance their curriculum… it has to be their curriculum- relevant and interesting to them, so they can take ownership of their own learning* (transcript, p.7). In her classroom, this pedagogical perspective was exemplified in action through the establishment of groups whose challenge often involved seeking solutions to problems that they had found or set themselves. Pursuing such self-initiated enquiries fostered the children's sense of agency as the following example from the QCA video data (2005a) indicates.

Some of Dawn's class of 6 and 7 year-olds had developed an unexpected interest in the nurse Mary Seacole; the planned curriculum was adapted accordingly and after a period of investigation, the class decided to create and compare Mary Seacole's and Florence Nightingale's hospital bases on the edge of the Black Sea and at Scutari. Following a discussion of possibilities during which Dawn asked them how they were going to organize themselves, the children set about creating the two scenarios having divided themselves into self chosen groups. Dawn moved around the room observing, listening and occasionally joining in conversations. She frequently provoked the children's thinking by pondering tentatively aloud using 'what if' framing and a wide range of modal verbs, for example: *I was wondering what would happen if you used the material differently*? and '*It might have been a challenge to move soldiers from the battlefields to the hospital, what kinds of ways might they have achieved that I wonder?* and *Would it help you at all to make a floor plan? - I suppose it might take too much time? What if you did this differently- what options can you think of?* (transcript, p.3) Her speculative stance indicated a genuine interest in the children's ideas and her language helped them maintain a sense of agency and influence over their work.

Dawn constantly passed the decision making back to the learners. For instance, when three children rushed up explaining they did not have enough beds (that is there were insufficient tables to act as beds in Scutari for the number of soldiers expected), she immediately asked them: *What ideas do you have about this - what can you do? They'll be arriving soon* (transcript, p.4).The learners were challenged to sort out the problem themselves, eventually deciding that the 'beds' must act as doubles and some of the less serious cases would have to cope with a blanket on the floor. She frequently responded to individual questions with another question, and through such reverse questioning adroitly turned the focus back onto

the children, nudging them to take responsibility for their own learning. As she commented, *There's no point in me leading them all the time, after all it's **their** learning* (transcript, p.8).

During this time of imaginative engagement, Dawn sought to be available as a resource to facilitate the children's thinking, but did not seek to direct their learning. All the teachers created such spaces for the children to exert their own agency and shape the agenda, allowing them to identify and follow through their own ideas and try out possibilities as they experimented with the resources to hand and talked through options and ideas with one another. This focus on learner agency, whilst absent in the pedagogical approaches recommended by QCA (2005a, 2005b), has been evidenced earlier as a key issue in creative learning (Woods and Jeffrey, 1996; Jeffrey and Woods, 2003).

(iii) Creating time and space
The learning culture in each setting also prioritised thinking time and space, key to this was the development of shared agendas by children and teachers. To facilitate this, children were offered open access to a wide range of learning resources and broad choices over what and how to engage; additionally the permeation of play-based learning was seen as an essential vehicle for learning in each context. Learners' ideas were taken seriously, independence encouraged and choice was given high priority. Time was flexibly handled. As their ideas and explorations expanded, so time also stretched, 'magically', to encompass these. As Jean Keene, the teacher in the Infant School, working with 4 and 5 year-olds put it: *You have to have a very flexible approach to time and how you manage time. As long as you're clear about where you're going and what you want to achieve it really doesn't matter how you get there as long as the children are involved and are aware and can develop their own interest and ideas* (transcript, p.10). The rhythm of learning was governed by engagement rather than the clock. Work-in-progress was a common phenomenon. Children were encouraged, in discussion with adults, to consider whether their work was complete; with age these negotiations were more closely related to learning objectives.

The physical environment, both indoor and outdoor was seen to play a pivotal role in fostering independence, as Jean observed: *We believe very strongly that the children do need to have ownership of the room and the environment and indeed the whole school. They need to know where everything is, they need to feel they're part of all the things we do…It's something that you can't rush, but it is worth the effort* (transcript, p.1).

A feature of Jean's classroom was the design of interactive display spaces. The classroom itself was treated as a pedagogic tool. Children engaged with it as they might with a person, developing relationships and understandings and indeed co-creating it. Part of the video data (QCA, 2005a) captured the children commencing the co-construction of a display connected to the theme 'We're Going on a Bear Hunt'. They were invited to close their eyes and to take time to think and imagine – there was an explicit belief that ideas would flow: *I know all of you are going to have super ideas – I just know from the look on your faces'* (VSR notes, p. 1). Jean emphasised the importance of children feeling safe to voice their ideas, asserting that they need to know *we are not going to shout them down…that any idea is taken seriously* (transcript p.3). Lindsey Haynes, her teaching assistant, echoed this perspective: *if you're listening to them, they're actually wanting you to talk about the next stage along and given the opportunity and a just little bit of encouragement they will take themselves … to the next stage* (transcript, p.7). The space ultimately developed by the class was complex, three-dimensional, interactive and original, facilitating imaginative play whilst also reinforcing reading and counting as well as fine and gross motor control.

Stretching time and enriching space in this class was enhanced through the close collaborative teamwork observed between Jean and Lindsey and is evidenced in Lindsey's words: *I would not be able to do the things I do if I wasn't involved in group discussion at the very beginning because that's where the [children's] ideas come from. It … helps me when we're … creating the ideas later on to know what sparks that in the child and where that idea came from. …Without being involved … I would be really lost. I would find it so difficult to know what the children were able to do and what they were thinking about when they came up with those ideas* (transcript, p.5).

The provision of 'stretchy' time in each of the three settings encouraged children's full immersion in extended playful activities and, alongside the existence of an enriched, mutually-owned space, appeared to foster their motivation and involvement as possibility thinkers.

Towards a model of pedagogy and possibility thinking
The pedagogy documented was seen to be highly significant in relation to supporting children's purposeful engagement in creative learning and the three pedagogic themes in evidence were thus added to the evolving conception of possibility thinking to create a model of pedagogy and possibility thinking.

Figure 2: A model of pedagogy and possibility thinking
Figure 2 goes here(File is labelled possibility20% thinking)

The pedagogic themes identified as common across all the settings: standing back, profiling agency and creating time and space, nurtured the development of aspects of possibility thinking. Standing back was accompanied by a sustained focus on the part of the teacher and featured long periods of mutual immersion. This highly focused reflective posture/ action allowed unintended as well as intended learning outcomes to be noticed and celebrated. It also enabled the children to immerse themselves in playful activities without interruption, developing both questions and self determination in the process of finding and solving problems.

The pedagogic practice of profiling learner agency involved the teachers in providing freedom but also framing challenges in which, as the DfES (2003:9) recommend, there is 'no clear cut solution and in which pupils can exert individual and group ownership'. This enhanced the children's involvement, fostered their sense of autonomy and intentionality and enabled them to learn through asking questions and finding problems that they wished to solve. Additionally, time and space were viewed as permeable resources which were stretched and flexed in response to the children's needs and their emergent learning. Time to think, imagine, ask questions, experiment and reflect upon work in progress was seen as central to enabling the young learners to possibility think their way forwards. Possibility thinking was fostered by these aspects of pedagogic practice such that the learners' work became the learners' play; the learning activities were positioned both in time and space to enable the development of 'what if' activity.

Conclusions
This exploratory study set out to identify what characterises possibility thinking in young children's learning experiences and to document how teachers' pedagogical practice fosters this central aspect of creativity. Possibility thinking, supported by an enabling context, was

seen to encompass a number of core features, including: the posing of questions, play, immersion, innovation, risk taking, being imaginative, self determination and intentionality (Burnard et al., 2006). The children's creative orientation towards learning and their capacity to imagine alternatives, generate new ideas and consider possibilities for action was, it would appear, fostered by a parallel orientation on the part of their teachers whose pedagogy appeared flexible, focused and fine tuned. Flexing the curriculum the professionals in this study allowed the children considerable time and space to generate ideas and options which fostered their autonomy. However, they remained focused on the learners and their interests in order to fine tune both the opportunities offered and their own responses.

The pedagogy being employed by the professionals in these early years settings was arguably a somewhat 'invisible one' (Bernstein, 1977; David *et al.,*2000); the teachers positioned themselves off-centre stage and promoted learning through the children's self chosen activities and interests within broadly conceived subject domains. Whilst not afraid to use direct instruction and teacher-led work where necessary, they sought to balance teacher and child-led initiatives, explicitly fostering a sense of possibility and agency in their young learners. In addition, they created the time and space for children to explore their environment and the materials provided, encouraging both actual and mental play (Joubert, 2001).The features of this distinct pedagogic practice appeared to promote and foster the children's full engagement in problem solving - problem finding activities and thus supported their development as young possibility thinkers.

Underpinning the pedagogic practices of standing back, profiling learner agency and creating time and space were the teachers' conceptions of children as young thinkers and of learning as a process of discovery. These pedagogues often led by following, creating flexible maps en route with the class, and enabling the children to experience a high degree of ownership of their learning. As Neelands (2000:54) observes 'the true art of teaching lies in the complex tempering of the planned with the lived' and whilst subject knowledge and curriculum content were both engaged with, this was in response to the children's identified questions and observed interests.

There was evidence of teaching and learning being co-participative and combined in action as the teachers encouraged the children to direct more of their learning journeys. The children were frequently observed taking such a lead, but they did not do so alone and were not rushed into new spaces. Rather their teachers stood back, closely observing and supporting them as they posed questions and generated possibilities. The rhythm of learning was reminiscent of Woods' (1995) description of orchestration and pattern in the classroom and was described by one of the teachers as 'the very opposite of pace - more of a dance'. This notion of teaching and learning being conceptualised as a form of dance was explored by the research group. The children appeared to be creating their own dance, a free dance of some kind, which was not strictly choreographed by their teachers, but was based on the young learners' playful explorations and investigations. The absence of pre-arranged steps and explicit rules and conventions appeared to foster a more open frame of mind in all the dancers, both adults and children, who often moved in harmony together.

Within this 'invisible pedagogy', high levels of professional artistry were observed and documented in action. The implications of this work with regard to policy and professional practice are considerable, particularly as teachers seek to reconcile the pressures of curriculum prescription with the demand to teach for creativity. Unusually perhaps, and in contrast to other primary colleagues, the professionals in this study were not driven by the

need for speed to cover the prescribed curriculum which has arguably dominated the agenda in England in recent years (Burns and Myhill, 2004). They allowed both themselves and their young learners' time and space to play and explore, to speculate, question and imagine, and to possibility think their way forwards. In consciously seeking to avoid undue haste, the teachers allowed activities to be undertaken at the child's pace. One challenge in employing such a pedagogy of possibility is the problem of accountability. When the pedagogy is more visible and learning becomes bound by routines and framed by tight time schedules, then the choice of learning activity is largely determined by the teacher and the child's sense of agency and volition is likely to be markedly reduced. However, it must be acknowledged that these teachers worked in early years contexts, acclaimed by QCA as creative, so the extent to which such a pedagogy of possibility thinking is a feasible option or a working reality in other classrooms and with older learners is an issue for debate. It is an area which the research team intend to investigate. Given the attendant axes of assessment and accountability it would seem likely that the working environments of teachers employed in later phases of education, may be less conducive to developing children's possibility thinking.

This has been a story of shared professional reflection and development. The value of reflective tools such as video stimulated review and critical incident charting has been demonstrated here as in other teaching contexts (Burnard and Hennessy, 2006). Such tools provide the means by which teachers-as-professionals and teachers-as-researchers can reinterpret their professional practice. As individuals, and collectively, we are constrained only by our willingness to engage with and develop new pedagogies both as a source of, and as a resource for, possibility thinking.

References
Altheide, D.L. and Johnson, J.M. (1994) Criteria for assessing interpretive validity in qualitative research, in: N.K. Denzin and Y.S. Lincoln (Eds) *The Handbook of Qualitative Research,* Thousand Oaks, CA: Sage, pp. 485-499,
Ball, S.J. (2003) The teacher's soul and the terrors of performativity, *Journal of Educational Policy* 18, 215-228.
Bernstein, B. (1977) Class and pedagogies: visible and invisible, in: J. Karabel and A.H. Halsey (Eds) *Power and Ideology in Education* New York: Oxford University Press.
Broadhead, P. (2006) Developing an understanding of young children's learning through play: the place of observation, interaction and refection *British Educational Research Journal,* 32(2), 191-208.
Bruce, T. (2004), *Cultivating Creativity in Babies, Toddlers and Young Children.* London: Hodder Headline
Bruner, J.(1999) Folk Pedagogies. In J. Leach, and B. Moon (Eds) *Learners and Pedagogy*. London: Paul Chapman in association with the Open University, pp. 4-21.
Burnard, P. Craft, A. & Grainger, T. (forthcoming, 2006) Documenting possibility thinking:

a journey of collaborative inquiry *International Journal of Early Years Education,*14(3).

Burnard, P. & Hennessy, S. (2006) *Reflective Practices in Arts Education.* Dordrecht, The Netherlands: Kluwer.

Burns,C. & Myhill, D.(2004) Interactive or Inactive? A consideration of the nature of interaction in whole class teaching *Cambridge Journal of Education*, 34(1), 35-49.

Craft, A. and Jeffrey, B. (2004) Learner inclusiveness for creative learning, *Education 3–13,* 32(2), pp39-43.

Craft, A. (2000) *Creativity across the Primary Curriculum*: *Framing and Developing Practice*, London: RoutledgeFalmer.

Craft, A. (2001a), 'Analysis of research and literature on creativity in education' (pdf) A report prepared for QCA by Anna Craft, March 2001. Available at: http://www.ncaction.org.uk/creativity/resources.htm

Craft, A. (2001b) Little c creativity. In A. Craft, B. Jeffrey and M. Liebling (Eds.) *Creativity in Education*, London: Continuum pp.45-61.

Craft, A. (2002) *Creativity and Early Years Education* London: Continuum.

Craft, A., Burnard, P., Grainger, T., Duffy, B. Hanson, R., Keene, J., Haynes, L., Burns, D., with Woods, P. (2005) Documenting Possibility Thinking, presented at *Documenting Creative Learning: What, How and Why? An International Symposium: University of Cambridge, April 2005.*

Creswell, J. (1994) *Research Design: Qualitative and Quantitative Approaches,* Thousand Oaks: Sage.

Dadds, M. (1999) Teachers' values and the literacy hour, *Cambridge Journal of Education* 29(1), 7-20.

David, T., Raban, B., Ure, C., Goouch, K., Jago, M., Barriere, I. & Lambirth, A. (2000)*Making Sense of Early Literacy* London: Trentham.

Denicolo, P.M. (1996) Exploration of constructivist approaches in continuing professional education. In D. Kaoleking-Fishman and B. Walker (eds.) *The Construction of Group Realities.* Florida: Krieger, pp. 267-282.

DfEE(1998) *The National Literacy Strategy Framework for Teaching.* London: DfEE

DfEE(1999) *The National Numeracy Strategy*. London: DfEE

DfEE/QCA (2000)*Curriculum Guidance for the Foundation Stage.* London: Qualificatiosn and Curriculum Authority

DfES (2000) *The National Curriculum for England and Wales*, London: HMSO

DfES (2003) *Expect the Unexpected: Creativity in Primary and Secondary Schools* www.ofsted.gov.uk/publications/

Eglinton, K.A. (2003), *Art in the Early Years.* London: RoutledgeFalmer

Glaser, B. and Strauss, A. (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research,* Chicago: Aldine.

Grainger, T. Barnes, J. & Scoffham, S. (2006) *Creative Teaching for Tomorrow: Developing a Creative State of Mind* CCCU, A Report for Creative Partnerships, Kent.

Grainger, T. Goouch, K. & Lambirth, A. (2005) *Creativity and Writing*: *Developing Voice and Verve in the Classroom,* London: Routledge.

Jeffrey, B. (2003) Countering student instrumentalism: A creative response. *British Educational Research Journal* 29 (4): 489-504

Jeffrey, B. (2005a), *Creative Learning and Students' Perspectives Research Project: Final Report.* Approved by the European Commission April 2005. London: Tufnell Press

Jeffrey, B. (2005b) *Final Report of the Creative Learning and Student Perspectives Research Project,* (CLASP) A European Commission Funded project through the Socrates Programme, Action 6.1, Number 2002 – 4682 / 002 – 001. SO2 – 61OBGE. Milton

Keynes: http://clasp.open.ac.uk

Jeffrey, B. and Craft, A. (2001), 'The Universalization of Creativity', in Craft, A., Jeffrey, B., Leibling, M., *Creativity in Education*, London: Continuum, pp 1-13

Jeffrey, B. and Craft, A. (2004) Teaching Creatively and Teaching for Creativity: Distinctions and Relationships, *Educational Studies,* 30(1) pp77-87.

Jeffrey, B. and Craft, A. (2006), Creative Learning and Possibility Thinking. In Jeffrey, B. (Ed), *Creative Learning Practices: European Experiences*. London: The Tufnell Press, p.73-91.

Jeffrey, B. and Woods, P. (1998) *Testing Teachers,* London: RoutledgeFalmer.

Jeffrey, B. and Woods, P. (2003) *The Creative School: A Framework For Success, Quality And Effectiveness,* London: RoutledgeFalmer.

Jones, R. and Wyse, D. (Eds) (2004) *Creativity in the Primary Curriculum*. London: David Fulton

Joubert, M.M. (2001) The art of creative teaching: NACCCE and beyond. In A. Craft, B. Jeffrey & M. Liebling (Eds.) *Creativity in Education*, London: Continuum, pp.17-34.

Larson, J. and Marsh. J (2005) *Making Literacy real: theories and practices for learning and teaching,* London: Sage.

Miell, D. and Littleton, K. (Eds) (2004), *Collaborative Creativity: Contemporary Perspectives.* London: Free Association Books

Miell, D., MacDonald, R. and Hargreaves, D.J. (Eds) (2005) *Musical Communication*. Oxford: Oxford University Press

National Advisory Committee on Creative and Cultural Education (NACCCE) (1999) *All Our Futures: Creativity, Culture and Education,* London: Department for Education and Employment.

Neelands, J. (2000) Drama sets you free or does it? In Davison J. and Moss, J, *Issues in English Teaching,* London: Routledge, pp.73-89.

Qualifications and Curriculum Authority (QCA) (2005a) *Creativity: Find It, Promote – Promoting Pupils' Creative Thinking And Behaviour Across The Curriculum At Key Stages 1 And 2 - Practical Materials For Schools,* London: Qualifications and Curriculum Authority.

Qualifications and Curriculum Authority (QCA) (2005b)website: http://www.ncaction.org.uk/creativity/about.htm

Schon, D. (1987). *Educating the Reflective Practitioner*, San Francisco: Josey Bass.

Stenhouse, L. (1975). *An Introduction to Curriculum Research And Development,* London: Heinemann.

Strauss, A. and Corbin, J. (1990) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques,* London: Sage.

Sikes, P. Measor, L. & Woods, P. (1999) Critical phases and incidents. In J. Soler, A. Craft & H. Burgess (Eds) (2001). *Teacher Development: Exploring our Own Practice.* Thousand Oaks, CA: Sage, pp.104-115.

Walker, R. (2002)Case study, case records and multimedia *Cambridge Journal of Education*, 32(1), 109-127.

Woods, P. (1995) *Creative Teachers in Primary Schools* Buckingham: Open University Press.

Woods, P. (2002), Teaching and learning in the new millennium, in Sugrue, C. and Day, D. (Eds) (2002), *Developing Teachers and Teaching Practice: International Research Perspectives,* London and New York: RoutledgeFalmer, pp.47-62.

Woods, P. and Jeffrey, B. (1996) *Teachable Moments: the art of creative teaching in primary schools.* Buckingham: Open University Press

Yin, R.K. (1989) *Case Study Research: Design and Methods,* (2nd ed). Newbury Park, CA:

Sage.

Zellermayer, M. and Ronn, P.(1999) Making tacit knowledge visible through interplay between action research and videotaping. *Teachers and Teaching: Theory and Practice*, 5(2), 243-66.