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Abstract

This article provides a brief review of the main phases and findings of the Froebel Research Fellowship project, which has been funded by the Froebel Trust (previously the Incorporated Froebel Educational Institute) since 2002. The project is investigating the extent to which Froebelian ideals, such as the notion that children's knowledge should grow from within rather than from outside the child, might be met within the demands of contemporary early childhood education and care. We have completed five main phases of the project, and a sixth is currently under way. In Phases 1–3 (2002–5), we investigated the attitudes and practices of practitioners in relation to the development of children's personal, social and cognitive skills in the curriculum using interviews, observations and questionnaires. In Phases 4a–c (2005–2008), our focus narrowed to the study of children's creative thinking and to the effects of social relationships upon it: children's, parents' and practitioners' views were investigated in Phases 4a, 4b and 4c, respectively. Phase 5 (2009–2011) retained our emphasis on the differences between children's, parents' and practitioners' views, but focussed primarily on the distinction between play and learning at *home* and at *school*. Our shift in focus from the *cognitive* aspects of creativity in Phases 1–3 to its *social* dimension in Phases 4 and 5 has now moved towards *emotional* and *motivational* issues in Phase 6 (2012–2015), in which we are investigating children's well-being.

Keywords

autonomy, creativity, early childhood education, early years practitioners, parent involvement

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Introduction

Friedrich Froebel placed great emphasis on the growth of knowledge from inside rather than from outside the child, which involves the unfolding of principles rather than merely learning rules by heart: ‘what the pupils know is not a shapeless mass, but has form and life. Each one is, as it were, familiar with himself ...’. Accordingly, he opposed education which seeks to impose knowledge from the outside:

We possess a great load of extraneous knowledge, which has been imposed on us and which we foolishly strive daily to increase ... we have very little knowledge of our own that has originated in our own mind and grown with it. (Froebel, 1826: 156)

Another of Froebel’s fundamental concepts was that of *unity in diversity*: the notion that ideas and objects gain their power from the dynamic relationship that they display with their opposites. This led to a focus on the relationship between our inner and our outer selves: ‘We become truly Godlike in diligence and industry, in working and doing ... we thereby represent the inner in the outer ... we give body to the spirit, and form to thought’ (p. 31). The idea of the creative tension between our inner and outer selves serving as a source of learning and creativity is very similar to the idea of a *dynamic equilibrium*, which is at the heart of Jean Piaget’s monumental developmental theory. Piaget held that the dynamic equilibrium between what he called assimilation and accommodation – between the child’s internal world, and the people, places and things he/she encounters in everyday life – is the primary source of cognitive development. Froebel stated this same idea explicitly: ‘When we are being creative we give body to thought: we render visible the invisible’ (p. 31). Piaget and Froebel both held that it was the child him/herself, and not parents or teachers, who provide the driving force for these changes: ‘Self-activity of the mind is the first law of instruction ... from the simple to the complex, from the concrete to the abstract, so well adapted to the child and his needs, he learns eagerly as he plays’ (p. xv).

The Froebel Research Fellowship (FRF) project is investigating the extent to which such Froebelian ideals might be met within the demands of contemporary early childhood education and care: in the United Kingdom, this is a highly active and important part of current education policy with a prominent political profile. Froebel’s ideas underlie the main concerns of this research, which are to look at ways in which practitioners can ‘find a space’ for children’s own ideas and thinking, and thereby promote their personal development. The FRF project has now given rise to many publications, including books, book chapters and peer-reviewed journal articles, and approximately 80 presentations including academic conference papers as well as talks/workshops for professional groups and practitioners. The results have highlighted a range of areas of current concern in early childhood education and care, including the place of creativity in early childhood settings, relationships between parents and professionals, children’s participation and pedagogic concerns such as teacher–child relationships and their impact on children’s creativity.

In our book *Young Children’s Creative Thinking* (Fumoto et al., 2012), we drew on the findings of the project in a general exposition of the key issues from the perspectives of the child, the parents or carers and the early years practitioners, and made some links between theoretical and practical issues. In this article, we provide a more detailed review of the course of the research itself, looking at the theoretical bases, research questions, methods and findings of the project’s six main phases, and we refer to specific publications which provide further information. There is inevitably a great deal of detail to be assimilated in an account of over a decade of research, and so we have provided a summary of the studies within the main phases of the FRF project in Table 1.

Table 1. Summary of studies within the main phases of the FRF project.

Phase	Research questions	Participants	Methods	Brief summary of results
1	Preliminary study of views of teachers and children about development of social and cognitive skills.	5 teachers of classes of 3–5-year-olds, and their pupils.	Interviews, Observations.	(a) Teachers committed to extending children's thinking; (b) differences in teachers' views about intervention in children's activities, and about Curriculum Guidance for the Foundation Stage; (c) differences between those who worked in nursery settings (3–4-year-olds) and those in reception classes (4–5-year-olds); (d) teachers perceived importance of ensuring time to enhance children's thinking.
2	What are practitioners' perceptions of their role in promoting children's thinking?	80 early childhood (EC) practitioners.	Questionnaire.	(a) EC professionals place children's thinking high among their priorities; (b) their experience of facilitating children's thinking involved providing enough time for completion of activities, for playing with them, for observing them, for providing opportunities for their own decision-making and to involve parents/carers in facilitation; (c) feelings of self-efficacy as EC professionals strongly associated with having enough time to enhance children's thinking.
3	In-depth follow-up of Phase 1: how do teachers make time to extend children's thinking?	13 practitioners from Phase 1.	In-depth interviews.	Importance of (a) prioritising the development of thinking in professionals' day-to-day interactions with children; (b) shared understandings between team members; (c) confidence in working within a statutory curriculum.
4	How do social relationships in EC settings support and influence children's creative thinking?
4a	What are children's perspectives on their activities in EC settings?	12 children aged 3.10–4.10.	Observations (coded using ACCT framework) and video-stimulated reflective dialogues with children and key person.	Children demonstrated wide range of creative thinking and metacognitive and self-regulatory behaviour when engaged in activities and also when reflecting upon them. Different contexts may support different amounts and types of creative thinking and metacognitive and self-regulatory behaviour, suggesting value of engagement in wide range of types of activities and of explicit reflection on those activities.
4b	Does parental involvement in their children's learning encourage exchange of information about children's creative thinking?	Parents of 2 children from each of three settings.	Reflective dialogues on video recordings of their own children.	Apparent tension between some parents' assumptions about their involvement and relationship with teachers in the setting and their knowledge of their children's creative thinking. Parents initially expressed satisfaction with their involvement in their children's learning, but their surprise about video evidence of creative thinking in the setting did not support this in some cases.

(Continued)

Table 1. (Continued)

Phase	Research questions	Participants	Methods	Brief summary of results
4c	How do teachers' evaluations of children's creative thinking predict their perceptions of their relationships with the children, and how do teachers reflect on these relationships?	Six teachers and 65 of their pupils (mean age 4.3 years); 65 teacher–pupil pairs.	Student–Teacher Relationships Scale (STRS), Evaluation of Children's Creative Thinking Questionnaire (ECTQ), interviews and informal observations.	Teachers' evaluation of children's creative thinking was a significant predictor of their perceptions of the quality of their relationships with them at the beginning and the end of the school year. Teachers' understanding of the ways in which they evaluate children's creative thinking seems to influence the emotional and social environment that they create in early childhood settings.
5	What are the differences between children's play and creativity at home and at school?	30 children aged 3–4 years in a Children's Centre, teachers, nursery officers and other professionals, parents and carers.	Observations (coded using ACCT framework) and video-stimulated reflective dialogues with children and key person and parents.	Sociodramatic play and outdoor play were particularly effective contexts for supporting creative thinking. All adults played a significant role in facilitating children's initial engagement in activities and in supporting their speculative thinking and use of prior knowledge. Teachers are often more successful than other adults in supporting acquisition of new knowledge. Child-initiated activities, particularly in group or pair play, featured the highest levels of involvement and were associated with trying out and analysing ideas, flexibility and originality, imagining and hypothesising. Initial parental reticence about providing details of children's activities at home: creative thinking perceived in songs, dancing, reading and writing rather than in video recordings of nursery school activity (e.g. ball games or social activities). Nevertheless, evidence of parental appreciation of importance of 'investigation' and pretend play, which may develop creative thinking.
6	(a) What do parents, practitioners and children understand by well-being in young children? (b) What methods might be used to assess it? (c) What are the inter-relationships between measures of well-being and creative thinking?	Projected study: Parents and children to be drawn from contacts in London and Norwich; practitioners from Web-based networks.	Semi-structured interviews, Internet-based questionnaire.	Results will be reported in journal articles and conference presentations.

FRF: Froebel Research Fellowship; ACCT: Analysing Children's Creative Thinking.

Phases 1–3 (2002–2005): attitudes and practices of practitioners to the development of children’s personal and social and cognitive thinking skills in the early years curriculum

In the first three phases of the project, we used interviews, observations and questionnaires to investigate the attitudes and practices of the practitioners in relation to the development of children’s personal, social and cognitive (thinking) skills, within the context of the demands of the curriculum at the time. There were two main strands: the *Teachers’ strand*, designed to investigate the intentions, attitudes and practices of effective practitioners, and the *Children’s strand*, designed to investigate the views that children express about their activities and environments, and their interactions with peers and adults.

Phase 1 collected in-depth interview and observational data from a small sample of teachers, identified by peers as good practitioners in this field, and their classes/groups of children, aged 3, 4 and 5. The data collection from the teachers’ strand turned out to be more fruitful than that from the children, and a focus developed on teachers’ attitudes towards pupils’ thinking: a teacher interview study has been published on their perceived roles in supporting and facilitating children’s thinking (Robson and Hargreaves, 2005). In summary, our data revealed four main findings: (a) there was a high level of commitment among the teachers towards extending children’s thinking, although this often remained implicit rather than explicit in their planning and their own thinking; (b) there were differences in their views about the extent to which they felt they should intervene in children’s activities, in their views on the Curriculum Guidance for the Foundation Stage and the impact it had on their practice; (c) there were clear differences between those who worked in nursery settings (3–4-year-olds) and those in reception classes (4–5-year-olds); and (d) the importance of ensuring time to enhance children’s thinking was highlighted in the study.

Phase 2 was a questionnaire study which pursued some of the issues identified in Phase 1, investigating 80 early childhood practitioners’ perceptions of their roles in supporting and extending children’s thinking, and their experience of their own process of thinking being extended by the children. The publications and presentations arising from this phase focus on the ‘ownership’ of children’s thinking and the specific issue of time available to extend children’s thinking. The results showed that (a) early childhood professionals place children’s thinking high on the agenda in their practice; (b) their experience of facilitating children’s thinking involved the extent to which they felt able to provide enough time for children to complete activities, to play with the children, to ‘stand back’ and observe the children, to provide opportunities for children to make decisions for themselves and to involve parents/carers in promoting children’s thinking; and (c) their feelings of self-efficacy as early childhood professionals are strongly associated with the extent to which they feel they have enough time to enhance children’s thinking (Fumoto and Robson, 2006).

Phase 3 followed up the issues raised by Phase 2 with an in-depth interview study of 13 of the practitioners who had taken part in Phase 1, investigating in particular their views of making time for children’s thinking. The focus was on the ways in which professionals working with young children aged 3–5 believe that they make time to extend children’s thinking. A preliminary analysis of the interview data revealed the importance of (a) prioritising the development of thinking in professionals’ day-to-day interactions with children; (b) shared understandings between team members; and (c) confidence in working within a statutory curriculum.

Taken as a whole, we felt that these results illustrated the need for further exploration of children’s experiences of their involvement in activities and of the quality of interpersonal relationships in early childhood settings. Since these relationships may be critical in facilitating or inhibiting professionals’ opportunities to promote children’s thinking, we decided to place them at the heart of the next phase of the project.

Phases 4a–c (2005–2008): effects of social relationships on children’s creative thinking – children’s, parents’ and practitioners’ views

In Phase 4, our focus narrowed to the study of *creative development*, which was one of the six ‘early learning goals’ in the Early Years Foundation Stage in the English curriculum at that time, alongside *personal, social and emotional development; communication, language and literacy; mathematical development; knowledge and understanding of the world; and physical development*. In doing so, we adopted a social psychological approach and drew on socio-cultural theory in its broadest sense. In the literature on creativity, this is most clearly represented by what Sternberg and Lubart (1999) referred to as the ‘social-personality’ approach, which probably falls into what Kozbelt et al. (2010) have more recently categorised as ‘developmental’ or as ‘systems’ theories.

Probably the most prominent representative of this approach has been Teresa Amabile, whose book *The Social Psychology of Creativity* (1983) set out the main features of the social psychological approach, which she followed up and developed further in *Creativity in Context* (1996). Amabile proposed a ‘componential framework’ model of creativity based on the three main components of domain-relevant skills, creativity-relevant skills and task motivation. The latter stresses the importance of intrinsic motivation, and Amabile’s ‘intrinsic motivation hypothesis’ of creativity suggests that ‘the intrinsically motivated state is conducive to creativity, whereas the extrinsically motivated state is detrimental’ (p. 107). At the broadest level, the social psychological approach focusses on the effects of contextual, environmental, social and cultural factors upon the development of learning and thought, which of course includes creativity.

This development of our theoretical thinking about the closely inter-related concepts of ownership, autonomy, social relationships and creativity shaped the three strands of Phase 4 of the project, which investigated the ways in which social relationships in early childhood settings support and influence children’s creative thinking. The main research question was ‘how do social relationships in early childhood settings support and influence children’s creative thinking?’, and we approached it from three points of view: those of the children, their parents and the practitioners involved. The data in each strand were drawn from different participants in a children’s centre, a private workplace nursery and a Foundation Stage Unit in a primary school in London, United Kingdom.

Phase 4a: children’s perspectives

In recent years, there has been greater recognition of children’s rights to express their views on issues that concern them and an increased emphasis on the value of eliciting children’s own perspectives on their lives (Alderson, 2005; Clark and Moss, 2001). This strand of the research addressed the following specific research question: What are the children’s perspectives on their activities in early childhood settings, and how do they reflect upon these? The investigation involved observation and video recording of episodes of children’s play, which formed the subject of reflective discussions (see Hargreaves, Moyles and Merry, 2003) between 12 children aged between 3 years 10 months and 4 years 10 months, and their teachers.

Drawing on Vygotskian perspectives of language as a key psychological tool for self-regulation (Vygotsky, 1986), and Forman’s (1999) identification of the video camera as a ‘tool of the mind’, the children were videotaped during child-initiated activities. Episodes from the resulting video data were selected, which focussed on young children’s creative activity and thinking, identified by Sternberg (2003) as thinking which is unique, and which ‘produces ideas that are of value’. These were then viewed by the children themselves and a practitioner or project researcher and collaboratively analysed in ‘reflective dialogues’, using a semi-structured interview schedule.

Data from the videotaped play episodes were analysed using a coding scheme which was specially designed for this project – the Analysing Children’s Creative Thinking (ACCT) Framework, which is described in detail by Robson and Rowe (2012), and more recently by Robson (2014), and whose main features are set out in Table 2. This framework identifies 10 aspects of creative thinking behaviour, organised into three categories. Category 1, *Exploration*, comprises Exploring, Engaging in new activity and Knowing what you want to do. Category 2, *Enjoyment and Involvement*, comprises Trying out ideas, Analysing ideas, Speculating, and Involving others. The third category, *Persistence*, includes Persisting, Risk taking and Completing challenges. Table 2, reproduced here from Robson and Rowe (2012), provides an operational definition of each of these 10 aspects of behaviour, as well as an example of typical behaviour in each category. Broadly speaking, our data showed that children were engaging in a wide range of aspects of creative thinking, across all three categories. While there was no evidence that the children’s creative thinking behaviour followed a predictable sequence, all the samples analysed included evidence of children’s creative behaviour in the *Exploring* category. The types of creative thinking behaviour least evident in the data were those involving analysing ideas, speculating and risk taking.

The data from both the videotaped play episodes and the reflective dialogues were also analysed using the Cambridgeshire Independent Learning (CIndLe) framework developed by Whitebread et al. (2007, 2009), drawing on Flavell’s (1979) work on metacognition and Bronson’s (2000) work on self-regulation. Analysis of the children’s talk in these reflective dialogues showed them using talk in a range of ways, including to comment, to give reasons for and to reflect upon their own and others’ actions, and to demonstrate metacognitive knowledge, metacognitive regulation, and emotional and motivational regulation. In the following example, Ruby demonstrates many of these aspects as she reflects on a video of a self-initiated outdoor play activity during which she and three other children had constructed a tunnel from large plastic construction apparatus:

- Ruby: I know, I was building a tunnel – very strong.
 ...
 Ruby: (*looking at screen*) Rebecca’s spoiling it. That’s Jasmin, that’s Harry. Jakie’s ruining it as well. I’m not. I asked Harry if we needed string, yeah, but Harry said no. I had a good idea. Move them along, yeah, then they can play fine whatever they wanna do with it, and they can break it.
 Adult: Right, and that was a good idea, was it? So you told other people about building a tunnel, did you? It was your idea, wasn’t it?
 Ruby: Yeah, well it was Harry’s idea first. That’s me trying to do it (*looking at screen*). They’ve done it all wrong.
 Adult: Who’s done it all wrong?
 Ruby: Them two.
 Adult: Did they? How does that make you feel, when they do it all wrong?
 Ruby: I don’t mind doing it, yeah, but they keep on, when people goes in, they come back out again. It’s not easy, I just do it. It winds me up. They think it’s a game but it’s not a game it’s just tunnels, it’s good tunnels. Down up side side up up up down (*gesturing with hands*).

A comparison of the data from the videotaped episodes and the reflective dialogues showed that children demonstrated metacognitive knowledge (of tasks and activities and themselves and others) more frequently in their reflective dialogues than during their play. For example, Tom demonstrated knowledge about himself as a learner when he said, ‘It’s hard for me to do’, looking at himself trying to push a loaded trolley, while Kit’s comment that the pile of block ‘presents’ on Santa’s sleigh fell down ‘[b]ecause there’s too much’ demonstrated his strategy knowledge.

Table 2. The Analysing Children's Creative Thinking (ACCT) framework.

Category	Operational definition	Example
E: Exploration		
E1: Exploring	Child is keen to explore and/or shows interest in the potential of a material or activity.	J is trying out buttons on the keyboard, causing a rhythm to play. He plays individual notes with alternate hands, smiling and watching carefully as he makes a note pattern.
E2: Engaging in new activity	Child is interested in becoming involved in an activity and taking an idea forward. The activity could be of his/her own choice or suggested by another child or adult.	A approaches a table covered in paint, where previous children have been working. She picks up a piece of paper from a pile and lays it on the table. Turning it over she spreads the paint that is now printed on it with her fingers.
E3: Knowing what you want to do	Child shows enjoyment or curiosity when choosing to engage in an activity.	K and adult A are standing at the woodwork bench. K has chosen a piece of wood, which he holds. He points to the back of the bench: 'In there.'
I: Involvement and enjoyment		
I1: Trying out ideas	Child shows evidence of novel ways of looking and planning: uses prior knowledge or acquires new knowledge to imagine and/or hypothesise or to show flexibility and originality in his/her thinking.	A is in the block area. She picks up three semi-circular blocks and lays two of them on the floor to form a circle, which she later calls a 'cheese'. She then puts one foot on each block and 'skates' across the carpet on them.
I2: Analysing ideas	Child shows either verbal or behavioural evidence of weighing up his/her idea and deciding whether or not to pursue it.	R, N and K are building a tunnel from construction pieces. R watches as N and K build a cuboid, N puts a piece in front of the open end. R: 'No, they won't be able to get out.'
I3: Speculating	Child makes a speculative statement or asks a question of him/herself or of other children or adults, relating to the activity.	H is outside, looking at herbs in the garden with adult J. H points to a herb and says 'Yes, but why is this spiky?'
I4: Involving others	Child engages with one or more children or adults to develop an idea or activity: may articulate an idea, seek to persuade others or show receptivity to the ideas of others.	A, J and C are playing a 'Father Christmas' game in the block area. A: 'I'm Rudolph.' J: 'And he's Rudolph too....No, he...you can be...' C: (to A) 'You Comet, you be.' A: (to C) 'Why don't you be Comet?' C: 'No, I'm Donner.'
P: Persistence		
P1: Persisting	Child shows resilience, and maintains involvement in an activity in the face of difficulty, challenge or uncertainty. He/she tolerates ambiguity.	In the sandpit, E has been filling a large tube with dry sand. He picks up the tube and goes to fill the hopper on a nearby toy lorry, but the sand runs out of the end of the tube. He looks up, smiles, but does not break his concentration, but instead uses his hands to fill the hopper.

(Continued)

Table 2. (Continued)

Category	Operational definition	Example
P2: Risk taking	Child displays a willingness to take risks and to learn from mistakes.	M is at the clay. She tries to fill a bottle by inverting it in to a full cup of water, but this causes the water to flow out on to the table. She abandons this and pours water straight from the cup onto the clay.
P3: Completing challenges	Child shows a sense of self-efficacy, self-belief and pleasure in achievement: shows conscious awareness of his/her own thinking.	M has been at the mark-making table, using felt tip pens and paper. He finishes his drawing. M: 'I've finished' (smiling). Adult: Mm. M pats the paper and nods, then picks up the pen and makes a large 'M' in the bottom right corner. 'That's my Muh.' (He continues to write the other letter of his name.) 'I did it, I writ may name myself.'

Source: Reproduced by permission from Robson and Rowe (2012).

Conversely, during their play, they were more likely to demonstrate evidence of metacognitive regulation (including planning and strategy use).

Our conclusion was that children in this age group demonstrated a wide range of creative thinking and metacognitive and self-regulatory behaviour, both when engaged in activities and also when reflecting upon what they have done. In addition, different contexts may support different amounts and types of creative thinking and metacognitive and self-regulatory behaviour, suggesting the value of both engagement in a wide range of types of activities and explicit reflection on those activities.

Phase 4b: parents/carers' perspectives

Parental involvement in their children's education is recognised internationally as being beneficial, and parental involvement in the form of 'at home good parenting' (Desforges and Abouchaar, 2003) has a significant positive effect on children's achievement. The effect of parental involvement on achievement and cognitive development has been explored widely in the Effective Provision of Pre-school Education (EPPE) project, and the findings of this study show that parental involvement in learning activities in the home are most closely associated with better cognitive attainment in the early years (Siraj-Blatchford et al., 2002; Sylva et al., 2010). Social relationships influence children's creative thinking both at home and in early childhood settings, and although parental involvement is seen as important in expanding the social and cognitive capacities of children (Driessen et al., 2005), little is known about the opportunities that parents provide for children to engage in creative activities at home. Children's creative thinking involves the use of their knowledge to take risks and solve problems in ways that are new to them.

This phase of the research investigated the view that links between homes and settings are important because parental involvement in their child's education has a powerful impact on children's attainment. The study investigated the following specific question: Does parental involvement in their children's learning encourage the exchange of information about the children's creative thinking?

Video footage of two children from each of the three settings was taken to provide examples of their creative thinking in the settings. The parents were then invited to share the viewing of video episodes of their own children with researchers, and, using 'reflective dialogue', to explore their approaches to creative thinking. The ways in which creative thinking is supported at home and in the setting were also explored. Preliminary analysis of an associated questionnaire survey suggested that parents were satisfied with the communication between themselves and teachers, whereas the teachers were unsure about the success of their relationships with parents.

The parents' satisfaction with this relationship was less evident in the semi-structured interviews carried out when parents viewed the video clips, as demonstrated by this parent's remark:

No. (pointing to video) that's not Daniel, not at all. He's always got children telling him what to do. He don't play on his own.

Daniel ... he'll try something once and if it goes wrong he won't go back and do it again he just walks away. Yet here he's completely different.

Further analysis of the data suggested that in some settings there is a tension between some parents' assumptions about their involvement and relationship with teachers in the setting and their knowledge of their children's creative thinking. While parents initially stated that they were satisfied with their involvement in their children's learning, their surprise about video evidence of creative thinking in the setting did not support this in some cases.

Phase 4c: teachers' perspectives

This third strand of Phase 4 examined the challenges faced by early childhood teachers (and professionals) in promoting children's creative thinking in early childhood settings. Creative thinking, which is unique and which 'produces ideas that are of value' for children (Sternberg, 2003), has been shown to promote their intrinsic motivation to learn, and the emotional climate of the settings can significantly influence levels of children's creativity regardless of 'an individual's particular talents, skills and creative thinking abilities' (Hennessey, 2003). This requires professionals to form warm and communicative relationships with children. However, the ways in which children express their creative thinking can also significantly influence teachers' perceptions of their relationships with children, given that the quality of teacher-child relationships is influenced by both teachers and children (e.g. Fumoto et al., 2007).

Research that examines the trajectory of teacher-child relationships is scarce outside North America, and so it seemed essential to investigate this more deeply in order to understand how early childhood practice can facilitate children's creative thinking. This study was designed to fill this gap by identifying the relationships between teachers' perceptions of teacher-child relationships and children's creative thinking, so as to understand the effects they have on each other and the implications for day-to-day practice. Two inter-related research questions were addressed: (1) How do teachers' evaluations of children's creative thinking, and the ways in which they create environments to promote it, predict their perceptions of their relationships with the children? and (2) How do teachers reflect on their relationships with children in group settings?

Six teachers' perceptions of their relationships with 65 children (mean age = 4 years 3 months) were assessed at the beginning and at the end of a school year by means of the Student-Teacher Relationships Scale (STRS; Pianta, 2001). The Evaluation of Children's Creative Thinking Questionnaire (ECTQ) was specially constructed for the purposes of this study, based on the analyses of the foundations of children's creative thinking by Hennessey (2003) and Sternberg (2003).

The six teachers completed the STRS and the ECTQ for each child in their groups at the beginning and at the end of a school year, giving rise to data on 65 teacher–child pairs. One-to-one semi-structured interviews and informal observations were also conducted with the participants in order to explore their views and experiences of teacher–child relationships, and the ways in which they facilitate children’s creative thinking through their relationships.

Statistical analysis of the results showed that teachers’ evaluation of children’s creative thinking was a significant predictor of their perceptions of the quality of their relationships with the children at the beginning and the end of the school year, whereas their promotion of environments to enable that thinking was not a significant predictor at either of those points. While teachers’ evaluations of children’s creative thinking may influence the ways in which they perceive their relationships with the children, teachers seem to promote environments for creative thinking regardless of their perceptions of those relationships. Teachers’ understanding of the ways in which they evaluate children’s creative thinking seems to influence the emotional and social environments that they create in early childhood settings.

Phase 5 (2009–2011): the home and the school – children’s, parents’ and practitioners’ views

Our work in this phase was characterised by two main features. First, we retained our emphasis on the differences between the perspectives of the children, their parents and their teachers, as that produced some unexpected findings in Phase 4. Perhaps the most striking of these was that in some settings there appeared to be a tension between parents’ assumptions about their involvement and relationship with teachers in the setting, and their knowledge of their children’s creative thinking. In our interviews with parents, they generally made positive comments about the nursery and other pre-school settings, and felt that their children were happy there. However, they also generally felt that the nursery practitioners had little time available to communicate with them and therefore felt uncomfortable about expressing their concerns as this might take up too much of the practitioners’ valuable time. This may also relate to the general issue of trust between parents and practitioners: some parents felt that practitioners may not ‘believe’ what they said about what their children did at home. It remains a challenge for practitioners to develop trusting relationships with parents and vice versa.

The second main emphasis stemmed from the development of our theoretical thinking, and in particular in our renewed emphasis on the *social context* of early learning, which is represented most clearly by contemporary socio-cultural theory. This primarily originates from the work of L.S. Vygotsky in the 1930s, which was developed decades later by prominent contemporary theorists including Rogoff (2003) and Lave and Wenger (1991) (e.g. Wenger et al., 2002), whose most detailed contemporary exposition is to be found in cultural–historical activity theory (CHAT), which has been developed by Yrjö Engeström and his associates (see, for example, Engeström and Miettinen, 1999a, 1999b). Socio-cultural theory has arguably become the predominant approach within developmental and educational psychology, and puts social relationships, language and what Vygotsky called *cultural tools* at the heart of learning: in his view, people’s cognitive development must be viewed within a network of social relationships and cultural influences.

Our central research question was ‘what are the main differences between children’s play and creativity at home and at school?’, and this led to further questions about the views that children, teachers and parents expressed about their own roles in these activities, as well as about teachers’ views of the role of parents in these activities, and vice versa. We addressed these questions by using video-stimulated reflective dialogues (see, for example, which took the form of

semi-structured interviews with children, teachers and parents, designed to elicit their underlying beliefs about the nature of their respective roles in pre-school activities.

Some of these reflective dialogues were recorded during home visits to parents, in which we showed videos of their children at nursery: this initiated discussion about issues of general concern and also specifically about their children's creative thinking. At first, they were generally reticent about providing details of what their children enjoyed doing at home, and as far as creative thinking was concerned, they mentioned activities such as songs and dancing, and reading and writing: they were much less likely to provide instances of activities that had appeared in the video recordings of nursery school activity, such as playing football or social activities with others. Nevertheless, there was some general appreciation among parents that 'investigation' was an important part of their children's development and that pretend play, for example, could be valuable in developing creative thinking. In general, however, our results forced us to the conclusion that the gulf between home and school was still too wide and that various strategies such as holding one-to-one feedback meetings between practitioners and parents and providing more examples of nursery activities would be greatly beneficial.

Phase 6 (2012–2014): well-being, creativity and early learning

Looking back, our focus since 2002 moved from the *cognitive* aspects of creativity in relation to Froebelian concepts of autonomy (Phases 1–3) towards an interest in the effects of *social* relationships and contexts on those cognitive factors (Phases 4–5), and in the latest, current phase of the project, we have shifted the focus towards the *emotional/motivational* aspects of early learning by investigating children's well-being, which almost certainly underlies the other two dimensions. If children have low levels of well-being, which partly derives from their social relationships, then it is very unlikely that they will be able to demonstrate creative thinking, such that well-being may well be fundamental to everything else. This finds support in some of Froebel's ideas, as well as in those in Csikszentmihalyi's (2002) celebrated studies of flow, creativity and well-being.

The investigation of well-being is also very topical from various other educational and social points of view. In the United Kingdom, this arose in part from the United Nations Children's Fund (UNICEF, 2007) report on *Child Poverty in Perspective*. This report, which received massive publicity, placed British children at the bottom of the league table of rich nations with respect to their emotional well-being and happiness. Similarly, Layard and Dunn's (2009) *A Good Childhood* – the report of The Good Childhood Enquiry – stimulated a national debate about the possibility that 'toxic childhood' could be an unfortunate aspect of contemporary life: that the pressures on young children from educational institutions, from their parents, from their peers and in particular from the images and concepts they gain from the media have become intolerable, such that children cannot cope, and either drop out or turn away from this pressure.

These ideas from education resonate with other current views: most notably, with the emergence of *positive psychology* over the last decade or so, pioneered by the distinguished psychologists Martin Seligman and Mihalyi Csikszentmihalyi (2000). They suggest that previous thinking about people's mental health has been dominated by a 'deficit' view: that the job of psychology has traditionally been to address the problems that arise in people's lives. Positive psychology takes the opposite approach by focussing on the importance of well-being, health and people's quality of life; a good deal of scientific research has now been carried out which fleshes out this view and confirms its validity. One well-known and widely accepted approach in positive psychology is self-determination theory (Ryan and Deci, 2000), which conceives of well-being in terms of the three main components of *competence* (cognitive aspects, which are likely to include creative thinking), *relatedness* (social aspects, deriving from relationships with significant others) and *autonomy*

(self-regulation and identity, that is, the emotional/motivational aspects of well-being). It seems fitting that the latter returns directly to our original FRF theme of ‘ownership and autonomy in early learning’, which stems directly from Froebelian concerns.

Since the notions of well-being, quality of life and happiness are currently so prominent, and since these ideas fit naturally within a Froebelian approach, this seems to be an obvious direction for the current Phase of the FRF to follow. Phase 6 of the project will explore the extent to which it is possible to investigate well-being in young children and will look in particular at (a) what parents, practitioners and children themselves understand by well-being in young children; (b) what methods might be used to assess children’s well-being; and (c) the inter-relationships between these measures of well-being and those of creative thinking that we have developed in previous phases of the FRF project. Phase 6 is currently under way, and full details will be reported in journal articles and conference presentations in due course.

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