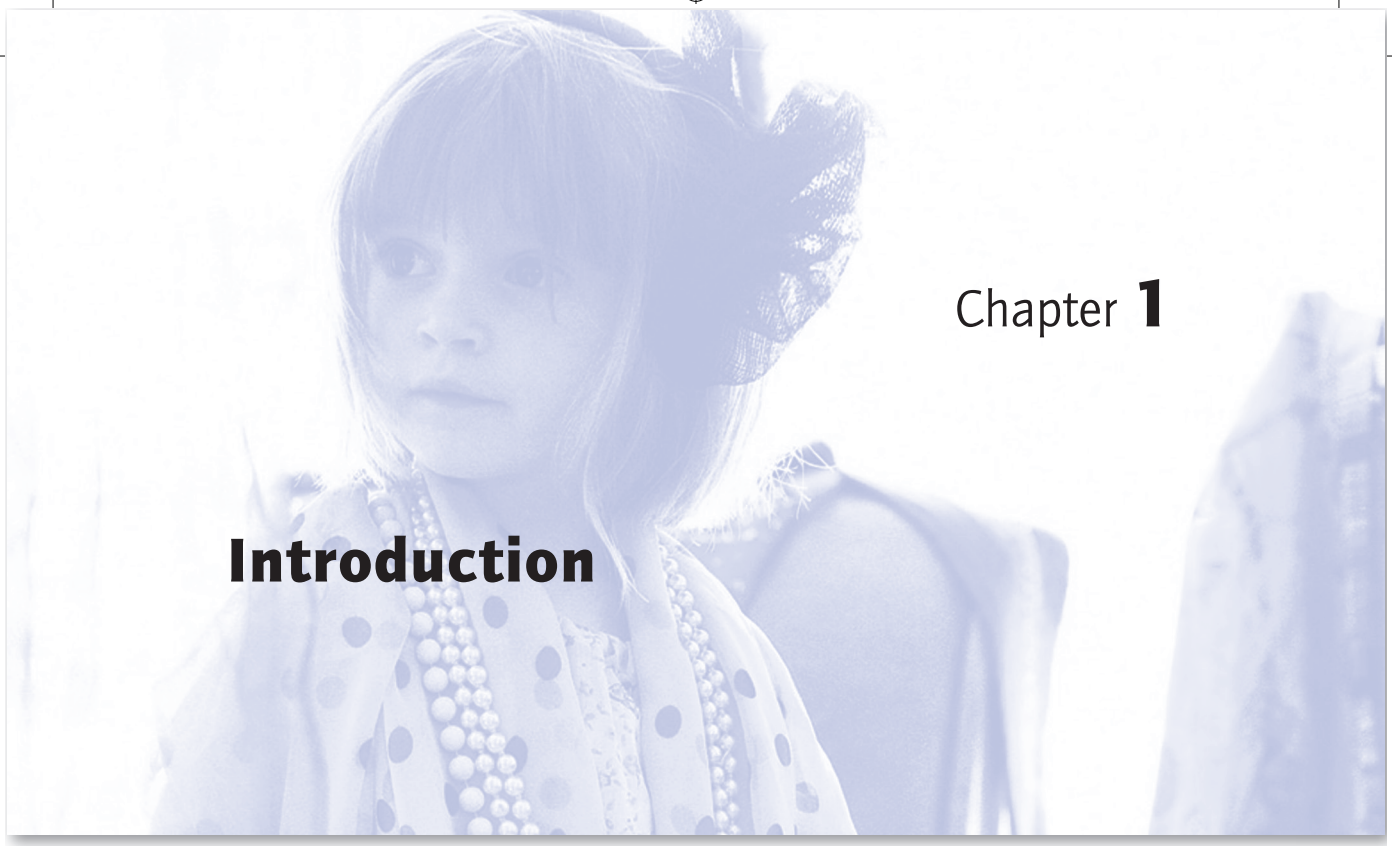

Chapter **1**

Introduction

Child Development and Early Years Education

This is a particularly exciting time to be writing this book. To begin with, and perhaps most fundamentally, it is an exciting time to be involved in early years education. For many years, the education of our youngest children has been a neglected and massively under-funded cottage industry, made up mostly of enthusiastic amateurs working in largely voluntary or very poorly paid capacities and working in church halls, scout huts and the like. Suddenly, and perhaps too suddenly in some ways, not only in the UK, but internationally, in the developed world, the developing world, and increasingly even in the least well-developed countries in the world, early years education is being taken seriously and is enjoying unprecedented levels of investment and development. The sheer speed of these developments is currently presenting major challenges, but there can be no doubt that this new recognition is long overdue and enormously important. All of us involved in early years education at this time have an exciting opportunity to contribute very significantly to the transformation of this, the most important phase of a child's education, into a professional, evidence-based enterprise which can make a real difference to the quality of children's lives, and to the societies into which they grow up as citizens.

At the same time, there is equally exciting progress in developmental psychology. We are currently experiencing a massive leap forward in our understandings about young children's development which, as is often the case with scientific advance, is largely a consequence of new technologies. So, just as it is accepted in

astronomy that Galileo's most important contribution was in his development of the telescope, rather than his ideas about the Earth travelling around the Sun, so in developmental psychology, the emergence of an array of new methodological tools has been of enormous benefit. As we shall see as we review the various kinds of evidence later in the book, these have included the use of video, of computers, of non-invasive neuroscientific methods, of techniques developed in evolutionary biology, and of a range of new research designs and methods of analysis. All of these technological and methodological advances have enabled us to increase enormously what we know and understand about young children. Most importantly, they have contributed to a revolution in developmental psychology. When I trained as a psychologist in the late 1960s and early 1970s, much of the research with young children was methodologically limited and tended towards a deficit model of the young child, focusing on what they could not do. By contrast, the more sophisticated approaches of modern developmental psychology have enabled researchers to uncover a wealth of information about all the astonishing early achievements of the young child.

So, to be writing a book at this time, which attempts to distil what we currently know from developmental psychology that might be helpful in our attempts to introduce young children to the world of education, is a delight and a challenge. It is a challenge because of the wealth of knowledge we now possess about young children's capabilities, but it is a delight because the book can focus so clearly on what children can do, rather than on their limitations.

Focusing on what children can do is, however, more than simply a pleasing, self-indulgent emotional response. It is actually enormously important in relation to early childhood education. As humans we have evolved, mostly in the Pliocene period when we lived for several million years as hunter-gatherers, to learn and develop in particular ways. These early adaptive processes have fashioned the human brain to be enormously efficient at processing information, but it achieves this in particular ways, which have made us astonishingly brilliant at some tasks (such as remembering faces, learning language, learning from one another), but rather poor at others (such as remembering names, understanding physics, working out how our latest gadget works by reading the manual). In the strange modern world in which we now find ourselves, we need to be aware of how our brain has evolved to learn and develop, so that we can build on our strengths as a species, rather than exposing our weaknesses. One of my earliest pieces of published writing about young children's learning concerned their learning of mathematics (Whitebread, 1995). In that chapter, I argued that understandings of how young children learn, derived from modern developmental research, showed us why traditional methods of teaching mathematics (abstract, removed from meaningful contexts, using conventional written symbols and taught algorithms) were likely to be generally ineffective and undermine children's confidence. With a better informed approach (practical, placed in meaningful contexts, building on children's own representations and strategies), we could harness the strengths of human learning and help children to become confident and able young mathematicians.

This book is an attempt to extend this kind of approach to the much broader sweep of children's development and learning.

Developing Children as 'Self-regulating' Learners

Indeed, the guiding principle and fundamental theme of the book is that young children can, with benefit to themselves as learners and developing individuals, do more for themselves than has previously been thought or commonly provided for in educational settings. They can take responsibility for their learning and ownership of it, and derive enormous benefit from doing so. They can become what is referred to in the developmental literature as 'self-regulating' learners. This is a theme which runs through each chapter of this book, as it relates as much to children's emotional and social development as it does to the development of their intellectual capacities. In the final chapter of the book, however, it is the central focus and works to bring together the principles and implications for pedagogy derived from the various aspects of children's development covered in the intervening chapters.

There is currently widespread interest and enthusiasm in the early years world for fostering self-regulating or 'independent' learning among young children, as attested by a number of publications (Featherstone and Bayley, 2001; Williams, 2003), by the current enthusiasm for such approaches as Reggio Emilia and High/Scope, both of which emphasise children's autonomy and ownership of their learning, and by recent official government guidelines. Recent initiatives, circulars and curriculum documents from various government agencies have offered a range of suggestions as to what independent or self-regulated learning might involve. In the revised QTS Standards entitled Qualifying to Teach (TDA, 2006), for example, teacher trainees are required under Standard S3.3.3 to:

> **teach clearly structured lessons or sequences of work which interest and motivate pupils and which make learning objectives clear to pupils ... [and] promote active and independent learning that enables pupils to think for themselves, and to plan and manage their own learning.**

In the Curriculum Guidance for the Foundation Stage (DfEE/QCA, 2000), which established the new curriculum for children between 3 and 5 years of age, one of the stated 'Principles for early years education' is that there should be:

> **opportunities for children to engage in activities planned by adults and also those that they plan and initiate themselves. (p. 3)**

Of course, as is often the case with these kinds of policy documents, these are simply statements of well-established good practice rather than anything startlingly new (despite the attempts of politicians to present them as such, with the implication that they personally have come up with a brilliant new idea that, somehow, has eluded the entire teaching profession). While a commitment to

encouraging children to become independent or self-regulating learners is very common amongst early years teachers, however, at the level of everyday classroom realities, there are a number of problematic issues. The need to maintain an orderly classroom, combined with the pressures of time and resources, and teachers' perceptions of external expectations from headteachers, parents and government agencies, can often militate against the support of children's independence. This is unfortunate and often counter-productive. The kind of overly teacher-directed style this tends to engender may create an impression of having 'covered' the curriculum, but is largely ineffective in promoting learning in young children, and does not help at all in the larger project of developing children's ability and confidence to become independent learners.

I remember very vividly, for example, my own two children's experiences with pre-school groups. At one group they attended, which claimed to teach the children to read, write, etc. and which had quite a long waiting list, they were greeted at the door and directed to the table at which they should sit, where materials were already neatly arranged and ready for some pre-designed craft activity. Here, they were told not to touch anything until the adult helper took them through each stage of the process, often helpfully re-adjusting things that proved too difficult for them to achieve. After 20 minutes, all the children at the table had produced identical robots, Mother's Day cards or whatever and they moved on to the next table where another activity was already waiting for them. The children made few if any choices, were never required or encouraged to have their own ideas, and had an almost entirely seat-based experience. At the end of the morning, they rushed up to greet me (or my wife), and usually forgot to bring with them any of the perfect creations they had been rather peripherally involved in. At a second pre-school (well, at the time, it was actually called a playgroup), for which, ironically, there was much less parental demand (probably as no claims were made about the formal learning of literacy), the children arrived to find a whole array of possible play activities from which they could choose, including some seat-based craft-type activities, but also construction materials, sand and water trays, bikes and other vehicles, a dressing-up rail, a 'home' corner for imaginative play, and so on. At the end of the morning, they would rush up enthusiastically, usually dressed up as Princess Smartypants or Wonder Woman, to show us two bits of cornflake packet stuck together with sellotape which was their magic helicopter or new little puppet friend Margaret, and which had to be carefully held onto so they could finish it at home, and then they had to be persuaded to transform themselves back into children and leave so that the nice ladies could tidy everything away until tomorrow. You can probably tell by the way I have written about these two establishments where I thought our children were doing some real learning. It was in the playgroup, of course, where they were being properly challenged, where what they could do was being recognised and built upon, and where they were learning not only practical, cognitive and social skills, but also how to make choices, develop their own ideas, and manage and regulate their own learning.

On top of the current constraints and difficulties pushing early years practitioners away from play-based and towards more adult-directed and formal approaches, there is also, understandably, often a lack of clarity as to the nature of independent or self-regulating learning. It is clear from governmental policy statements, as I cited above, that there is currently a strong commitment to the area of independent learning. However, there is also confusion and a need for clear definition. To begin with, while on the one hand early years practitioners are being asked to provide 'personalised learning' and respond to the 'Every Child Matters' agenda, at the same time they are being continually bombarded by 'top-down' pressures to force-feed all their great variety of children with set curricula and formalised 'standards'. In some recent policy guidelines (such as the recent Early Years Foundation Stage [DfES, 2006] document) and commentaries, furthermore, the emphasis has unhelpfully shifted more towards helping children with personal independence skills and in becoming an independent *pupil*, i.e. being able to function in a classroom without being overly dependent on adult help. This is quite distinct, however, from the concern to help children develop as independent *learners*, i.e. being able to take control of, and responsibility for, their own learning. It is for this reason that the term 'self-regulation' is increasingly preferred, with its emphasis on the learner taking control and ownership of their own learning. As we shall see, it is also a term which has a strong tradition within the developmental psychological literature.

Over the last few years, I have worked with 32 Cambridgeshire early years teachers on the Cambridgeshire Independent Learning (C.Ind.Le) Project (Whitebread and Coltman, 2007; Whitebread et al., 2005). This research has established that young children in the 3–5 age range, given the opportunity, are capable of taking on considerable responsibility for their own learning and developing as self-regulated learners, and that their teachers, through high-quality pedagogical practices, can make a highly significant contribution in this area. (More detail about this research is provided in the final chapter of this book.) The findings which have been derived from the C.Ind.Le project, and other similar research, however, have been a large part of the inspiration to write this book, and permeate each chapter.

The Impact and Nature of Quality in Early Years Education

Developing the educational provision for our youngest children is, of course, of vital importance. It is now well established that a child's educational experience in the early years has both immediate effects upon their cognitive and social development and long-term effects upon their educational achievements and life prospects. Sylva and Wiltshire (1993) reviewed a range of evidence which supports this position. This evidence includes studies of the Head Start programmes in the USA, the Child Health and Education Study (CHES) of a birth cohort in Britain and Swedish research on the effects of day care.

To begin with, these various studies appeared to produce inconsistent findings. Early studies of the Head Start programmes, for example, which provided pre-school places for children in economically and socially disadvantaged areas in the USA, suggested immediate cognitive and social gains, but little lasting effect. The CHES study, on the other hand, found a clear association between pre-school attendance and educational achievements at age 10. More recent analysis, however, has revealed that lasting long-term effects are dependent upon the quality of the early educational experience. Sylva and Wiltshire (1993) noted particularly the evidence of long-term impact achieved by High/Scope and other high-quality, cognitively orientated pre-school programmes. The most famous of these programmes was the Perry Pre-school Project in Ypsilanti, Michigan, directed by David Weikart, which was part of the Head Start initiative and later developed into what is now known as the High/Scope programme. Figure 1.1 presents some of the results from a follow-up study he conducted with a colleague with a cohort of 65 children who had attended this half-day educational programme over two years during the mid-1960s. Their outcomes at age 27 were compared to a control group of children from the same neighbourhood who had not attended the pre-school programme. As we can see, as well as achieving significantly better high school grades, the children who had attended the pre-school programme had been arrested on significantly fewer occasions, had higher earnings, had needed to receive less support from social services, and were much more likely to own their own house (Schweinhart et. al., 1993).

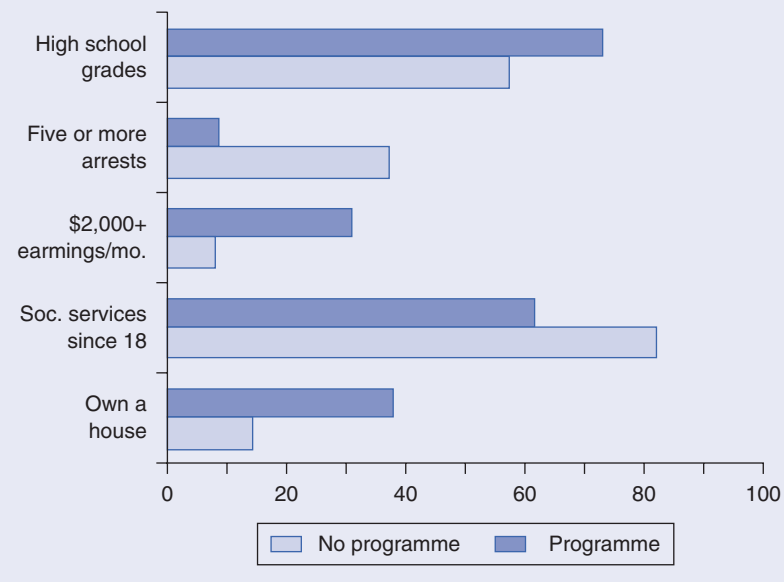

Figure 1.1 High/Scope follow-up evaluation at 27 years

Source: Schweinhart et. al, 1993

Findings from the more recent EPPE project (Sylva et al., 2004) have further supported this position, finding clear links between the quality of early years educational provision and a range of intellectual and personal gains.

What emerges as significant about these particularly effective early educational environments is very much in line with the position that I have indicated so far. These environments offered real intellectual challenge in the ways we have discussed, requiring and allowing the young child to develop their self-regulatory skills. Within this kind of pedagogical approach, the child is put very much in control of their own learning. In the High/Scope regime, for example, the central model of learning is the 'plan, do and review' cycle. Each child plans their activities for the session or the day in a small group with an adult educator – often referred to as a 'key worker'. They then move off to carry out the planned activities, and later return to review progress again with their small group, again supported by their key worker.

This pattern of working also builds in purposeful adult–child and child–child conversations, which oblige and offer children the opportunity to reflect upon and talk about their learning. Sylva et al. (2004) particularly identified, within the highest-quality settings, the occurrence of episodes of 'sustained shared thinking' between adults and children, where adults supported children's ideas and helped the children to extend and develop them. As we shall see, providing opportunities for children to talk authentically about their learning is an important component in helping them to develop as self-regulating learners. This is also not just a matter of cognitive activity, but has important emotional and motivational elements. What all the high-quality early years regimes identified by Sylva and Wiltshire (1993) did was to help children develop what they term a 'mastery' orientation to learning and to themselves. Children in high-quality early years environments developed feelings of high self-esteem, with high aspirations and secure feelings of self-efficacy. Such children grew to believe that, through effort, they could solve problems, understand new ideas, develop skills, and so on. They felt in control of their environments and confident in their abilities.

Psychological Developments Required for Self-regulation

From my own work within the C.Ind.Le project emerged four underlying principles for a pedagogy of self-regulation, which arose from our analysis of effective practice, and which also relate strongly to current findings in developmental psychology. These principles are briefly explained and discussed here, and form the framework of the following chapters of this book, which deal in more detail with children's emotional, social and intellectual development.

1. Emotional warmth and security

Perhaps most fundamentally of all, in order to develop into effective learners within the school context, it is clear that young children need love and security. An important element in the tradition of early years education has always been a

recognition of the need to consider the whole child. Children's learning and intellectual development is inseparable from their emotional and social development. In their early years, as well as mastering fundamental skills and understandings, young children are also forming their basic attitudes to themselves as people and as learners. The basic attitudes they form at this stage have major implications for their future educational progress and well-being as individuals.

An enormous body of research evidence collected by developmental psychologists supports this view. High self-esteem and feelings of self-efficacy are strongly related to educational success, and low self-esteem and what has been termed 'learned helplessness' are equally related to educational difficulty. It is difficult to attribute cause and effect here, but there is clearly a positive cycle of mutual interaction between self-belief and achievement and, sadly, a negative downward spiral associated with self-doubt and failure. Rogers and Kutnick (1990) have provided a useful survey of work in this area and its important implications for teachers.

Classrooms which support children's growing confidence as learners are first and foremost characterised by emotional warmth, by mutual respect and trust between adults and children, and by structures which provide emotional support (for example, clear and consistently applied rules). This kind of emotional atmosphere gives young children the confidence to play creatively, to take risks emotionally and intellectually, and to persevere when they encounter difficulties. In the absence of this kind of support, many young children will remain timid and passive in their general demeanour in the classroom, will be unwilling to try out new or unfamiliar activities and will give up on tasks as soon as they encounter difficulties.

A more detailed discussion of children's emotional development and the factors in the home and the school which impact upon it is provided in Chapter 2. This issue of emotional warmth and security also relates to aspects of social development and to children's experiences of play, which are reviewed in Chapters 3 and 4.

2. Feelings of control

Closely related to the need for emotional security is the need that all human beings have for feeling in control, both emotionally and intellectually. Feeling in control of their environment and their learning is fundamental to children developing confidence in their abilities, and to the ability to respond positively to setbacks and challenges. An early experiment carried out in California by Watson and Ramey (1972) illustrates very clearly this powerful aspect of human emotional development and motivation. It involved the parents of 8-month-old babies being given special cots which came complete with attractive and colourful 'mobiles'. The parents were asked to put their babies in the cots for specified periods each day for a few weeks. In some of the cots, the mobiles either did not move, or moved around on a timed schedule. But in other special cots the mobile was wired up to a pillow, so that the mobile would move whenever the baby exerted pressure on the pillow (see Figure 1.2). While the babies in the regular cots showed some interest in the mobiles, those in the special cots quickly learnt to

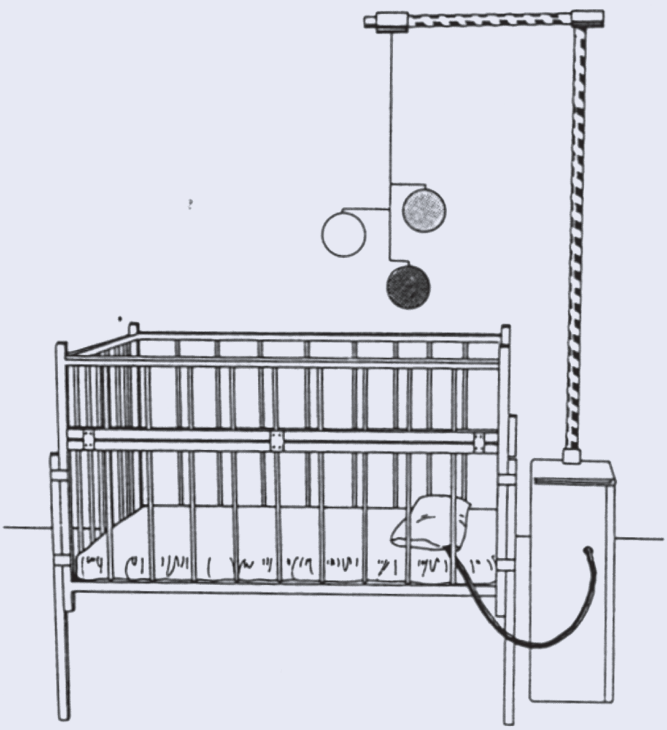

Figure 1.2 Cot with 'contingency mobile'
Source: Watson and Ramey, 1972

roll onto the pillow and make the mobile move, and expressed enormous glee every time the mobile moved (this is similar to the familiar game that babies love which involves them throwing something on the floor and an adult returning it to them; babies will repeat this for as long as the adult will play, laughing uproariously throughout!). At the end of the experiment, when the cots were taken away, most parents were perfectly content for this to happen. The parents of the babies who had experienced the special 'contingency mobiles' where the children had controlled the movement of the mobiles, however, offered to pay the research team large amounts of money to keep the cots because their babies had enjoyed these so much.

Feeling in control is a vital component leading to the development of what developmental psychologists term 'self-efficacy', which can best be described as a feeling of competence. Children with high self-efficacy are confident they can learn new skills, or understand new ideas, even though they might seem difficult at first. Indeed, they often positively enjoy a challenge and seek out difficult things to do. Children like this set their own challenges and learning agendas, and

develop into highly self-regulated learners. Not surprisingly, a considerable body of research has demonstrated the clear relationship between feelings of self-efficacy and educational achievement.

As a consequence, it is vitally important that teachers of young children allow sufficient flexibility in their classroom organisation for children who have been inspired by a particular experience to pursue their interest. Allowing opportunities for child-initiated activities, for children to make choices, and for children to be involved in important decisions about classroom rules and procedures, enhances children's sense of ownership and responsibility in relation to the classroom, their fellow pupils and their own learning. As we shall see in Chapter 4, play is an important medium through which children develop feelings of control and self-efficacy (see Guha, 1987, for an excellent exposition of this relationship).

3. Cognitive challenge

While it is clear that there is an intimate link between emotional and intellectual development, love, emotional security and feelings of control on their own are not sufficient. Young children also need intellectual challenge. As we will review in Chapter 6, when we examine research about the processes of children's learning, as a consequence of the work of psychologists such as Piaget and Vygotsky, it is now widely accepted that children learn by a process of actively constructing their own understandings. An important characteristic of the human brain is that we all find enjoyment in mental activity; on the downside, this also means that we experience boredom quickly and easily, and this is most true when we are young children and our brains are at their most active. All the evidence suggests that a learning environment which challenges young children intellectually and stimulates them to be mentally active is one that they will enjoy, that will engage their attention and provoke learning. It also turns out to be crucial, once again, that the children are put in control. Such an environment will provide new experiences, embedded in meaningful contexts, opportunities for active styles of learning, involving children in problem solving, investigations and opportunities for self-expression, and, perhaps most crucially of all, opportunities for learning through play.

I well remember taking my own young children to look at one or two different schools when we were deciding where to apply for a primary school place. In the first one or two schools, the children hung back, hiding behind us while we spoke to their prospective teachers, and looking rather in awe of the large space that would be their classroom. In the last school, however, we entered the Reception classroom with difficulty as it was a complete Aladdin's cave, festooned and brimming over with children's paintings and models, and other exciting things to look at hanging from the ceiling, with all kinds of 2D and 3D displays adorning and bursting out of the walls, and with a cornucopia of fascinating objects to handle, games to play, toys to explore, and so on. As we spoke to the teacher, the children couldn't resist looking, then touching and finally playing with some of the

exciting array of delights on offer and, at the end of the interview, it took quite a long time before we could persuade the children to leave this wonderful new world they had discovered. It was not difficult to decide which school was our first choice, where the children would thrive.

As we noted above, children will spontaneously set themselves challenges in their play and, given a choice, will often choose a task which is more challenging than the task which an adult might have thought was appropriate. Providing children with achievable challenges, and supporting them so they can meet them, is the most powerful way to encourage positive attitudes to learning, and the children's independent ability to take on challenging tasks. Research arising from Vygotsky's insights into children's learning (see, for example, Moll, 1990) has consistently shown that children learn most effectively when they are supported (or, in the metaphorical term coined by Bruner, 'scaffolded'), either by adults or by working collaboratively with their peers, in undertaking a task which would have been just too difficult for them to carry out on their own.

This issue of cognitive challenge arises in Chapter 4, concerned with children's play, and is also pursued further in Chapters 5 and 6, which review research concerned with the development of children's memories and understanding, and the different ways in which they learn.

4. Articulation of learning

Finally, it is clear that if children are going to become increasingly aware of and in control of their own mental processing, the processes of thinking and learning need to be made explicit by adults, and the children themselves need to learn to talk about and to express and represent their learning and thinking. Building in to regular practice within a classroom opportunities for the children to articulate their plans, and to reflect and comment afterwards upon their thinking and decision making during and after activities, is enormously advantageous in this regard.

There is good evidence to suggest that the processes of articulation and self-expression are important in helping children to understand and make sense of their experiences because of the processes of cognitive restructuring involved. The Vygotskian notion of learning through the co-construction of meanings in social situations and Bruner's notion of language as a 'tool of thought' are important here. In their explorations of young children's use of language in the home and school, Tizard and Hughes (1984) presented evidence of children engaging in processes of intellectual search through talk. The kinds of meaningful dialogues with adults that are likely to stimulate this kind of mental activity, however, they found to be much more common in the home environment than in the school. They argue that, as educators, we must find means of developing quality conversations between ourselves and the children in our classrooms. As mentioned above, this point has emerged again recently in Sylva et al.'s (2004) EPPE project findings concerning the distinctive prevalence of 'sustained shared conversations' in high-quality pre-school settings.

One of the clear disadvantages of the classroom environment relative to the home is, of course, to do with the adult–child ratio. For this reason, it is also important to stimulate challenging talk between the children. As a consequence, a range of educators have urged the more extensive use of collaborative group-work, peer tutoring and so on. Requiring children to work in groups to solve problems, carry out investigations or produce an imaginative response in the form of writing, drama, dance or whatever is potentially of enormous benefit.

In this regard, it is also important to recognise that the value of self-expression is not limited to the medium of language. Requiring children to transform their experiences into various 'symbolic' modes of expression is likely to aid the processes of learning. When children draw, paint, dance, construct, model, make music and, indeed, play, they are engaged in the active process of making sense of their world, of cognitive restructuring, in a way which is unique and individual to them, of which they are in control. The sheer vigour and enthusiasm with which young children engage in these kinds of activities is an important pointer to their significance.

Chapter 4 (in relation to some forms of play) and Chapter 6 deal in more depth with this vital relationship between language, self-expression and learning.

SUMMARY

Although I have attempted to separate out different elements in the psychological processes which relate to children's need for emotional security, feelings of control, intellectual challenge and self-expression, I must conclude by emphasising the powerful ways in which all these elements are of a piece. It is no accident that humans find activities which support learning immensely enjoyable. Adults at play, for example, are often enjoying the mental challenge of solving problems (crosswords, jigsaws, puzzles, games) or of expressing themselves (through music, art, drama). With enjoyment comes concentration, mental effort, motivation and achievement. Emotional security underpins children's confidence in expressing themselves and, in turn, self-expression builds upon and enhances children's sense of individuality and self-worth. A child who has experienced the excitement of finding things out for themselves or of solving problems is learning to take risks, to persevere and to become an independent, self-regulating learner.

Amongst the many challenges and complexities involved in teaching young children is the recognition that, as truly 'active' learners, they do not just learn what they are taught; rather, they learn what they experience. What I want to argue in this book, therefore, is that the effective early years teacher has to consider not only their own interpersonal style as a teacher, and not only the learning activities they devise and provide for the children, but also the entire classroom environment and ethos within which they and the children live and work.

It is always very sad to see the consequences of a poorly managed classroom: children standing around in queues waiting for a small amount of attention from the teacher; the children becoming over-dependent on adult support and unable

to function without constant intervention; the teacher under constant pressure and frustrated that they never have time to do anything properly; equipment forever being lost in the general chaos; and so on. Lofty ideals about being child-centred, encouraging creativity and teaching the children to think for themselves all come to naught in such an environment.

In the last 20–30 years, we have discovered an enormous amount about children as learners which has direct and important implications for early years educators. What I have tried to do in this first chapter is to provide an overall rationale for the themes picked up in the book, based on research in evolutionary psychology – the evolution of the human brain – and in neuroscience, together with insights from recent and current psychological research with young children. This work supports ideas about the importance of emotion in learning, about human learning as a fundamentally social activity, and about the importance of real and meaningful experiences and contexts in learning. In the remainder of the book, I want to explore these themes in more depth and show how what we currently know about young children and their development can be enormously helpful in guiding us towards providing real excellence in provision, within which the strengths that all young children possess can be supported to help them develop as learners and young people.

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