RESEARCH

Birth to Three Matters: A Review of the Literature

compiled to inform

The Framework to Support Children in their Earliest Years

Tricia David, Kathy Goouch, Sacha Powell and Lesley Abbott*

with materials from the Framework by Lesley Abbott*, Anne Langston*, Janet Ackers*, Ian Baron*, Caroline Bradbury*, Rachel Holmes*, Mike Johnson*

Canterbury Christ Church University College and
*Manchester Metropolitan University

department for
education and skills
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Tricia David
Kathy Goouch
Sacha Powell
Lesley Abbott
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BIRTH TO THREE MATTERS: RESEARCH REVIEW SUMMARY

Introduction

In 2001, Government commitment to the care and education of our youngest children led to the commissioning and development of a Framework for Effective Practice, *Birth to Three Matters*. The Framework was produced as a pack of materials (an introductory booklet; a poster; 16 laminated cards; a video; and a CD-ROM), designed to support practitioners working with children in their earliest years. It was the result of a year-long project led by Professor Lesley Abbott at Manchester Metropolitan University, involving children, parents, practitioners, early childhood specialists, policy makers and researchers working in partnership. An integral part of the process was the production of a review of research literature about children aged between birth and three years. Since that research evidence underpins the materials in the *Birth to Three Matters* pack, it was decided that the review should be made available through the DfES website and as a book.

After much consultation, the Framework pack was organised around four main themes, or Aspects:- **A Strong Child**; **A Skilful Communicator**; **A Competent Learner**; and **A Healthy Child**. Each Aspect was further subdivided into four Components, as set out in the table below.

Aspect	Component 1	Component 2	Component 3	Component 4
A Strong Child	Me, Myself and I	Being Acknowledged and Affirmed	Developing Self-Assurance	A Sense of Belonging
A Skilful Communicator	Being Together	Finding a Voice	Listening and Responding	Making Meaning
A Competent Learner	Making Connections	Being Imaginative	Being Creative	Representing
A Healthy Child	Emotional well-being	Growing and Developing	Keeping Safe	Healthy Choices

In order to provide meaningful links with the Framework, the Aspect and Component headings have been used in the literature review.

Key messages from the research review

- All areas of learning and development are intricately intertwined, young children develop and learn holistically and their emotional and social development seems to form the bedrock of other areas
- babies seem to come into the world primed for attachment to warm, familiar carers, who will usually be mothers, fathers, grandparents, older brothers and sisters and key adults in ECEC (Early Childhood Education and Care) settings

- these attachments form the basis for subsequent relationships, and for a person's sense of self/ self-assurance - those children who have had experience of warm attachments and positive responses become socially adept, self assured, independent and inter-dependent, higher achievers in their later ECEC and school settings
- parents who express negative narratives concerning their own early relationships with their parents need support to overcome perpetuating such patterns and to form joyful, mutually loving relationships with their babies and small children
- babies are born with the ability to perceive differences in languages and they can recognise the sounds used in the languages spoken in their homes
- between 12 and 36 months of age, young children grasp what is and is not culturally acceptable behaviour and speech and this is the result of being involved in interactions during the first year of life, where one is treated as if one is a person who understands and can respond
- babies seem to be tuned to learn from, with and about, firstly the people and the cultural environment around them, followed by the material environment - they come into the world primed to be curious, competent learners
- play, in which the baby or child takes the lead and makes choices, is a process which fosters cognitive development
- language and thought are developmentally linked - each depends on and also promotes the development of the other
- children 'make sense' of and 'transform' knowledge, experiences and events through imaginative and creative activity
- children's developing memories and use of narrative help them make sense of their lives
- they want to share and express their ideas playfully through the 'hundred languages of children' (for example, dancing, singing, talking, 'storying', music making, painting, making patterns, building, model-making, 'animating' puppets and other toys, dressing up, gardening, looking after animals, drawing, mark making – to list but a few possibilities)
- once again, the research points to the centrality of positive relationships with parents and other key people in young children's lives.

Practitioners need to be able to:-

- understand attachment and the importance of a child being special to at least one significant person in order to promote resilience
- be informed about young children's development
- provide opportunities to explore and play in a safe and secure environment - children's mobility and movement are important for their development

- know about brain development and the importance of 'nourishment' (a good diet - in both the form of food and of physical and psychological stimulation)
- help parents see that intimate behaviours such as *bugging and nudging*, *pet names* and *idiosyncratic behaviour* are important and that children's development sometimes seems difficult because they are trying to become independent people with a sense of self
- have reasonable rules which fit with children's rhythms and give a pattern to life
- know that parents, as well as children, need support
- know about child abuse and neglect and have other colleagues to consult
- recognise the additional requirements of babies and young children with special needs, and plan how to ensure these children have access, in a philosophical, as well as practical sense, to similar experiences and opportunities to their peers
- help communities and the public understand the importance of positive interactions and experiences in the first three years for all areas of development, including brain development, and for enjoyment in the here and now
- access the education and training necessary in order to fulfil their important role.

Methods

Recently there have been many debates about appropriate methodology for conducting rigorous reviews of research literature relevant to a particular topic and the work for this project's review of research took account of those debates. Firstly a list of key words and terms likely to generate published information about children's development during the years from birth to age three was developed. A second list of relevant data bases and journals was also compiled. The team shared out the second list and searched their allotted data bases (for example:- BEI – the British Education Index; the Social Science Citation Index; OVID Biomed) using the key terms. A proforma was devised against which to check the relevance and rigour of the source, as well as its potential contribution to the review. Having scoured the titles and abstracts highlighted by these varied data bases, each team member saved the results to computer disk, with the intention of using this second phase to eliminate less relevant or overly repeated entries. The full texts of those titles and abstracts which remained were then followed up by the team member with responsibility for that Component. In two particular respects it was not possible to follow the very thorough approach advocated by the EPPI (Evidence for Policy and Practice) project. Firstly, the research 'question' could not be refined to cut down potential entries or areas to be explored by the review, because the focus (the development of children aged between birth and three years) was already set and extremely wide. The second factor which limited our team's ability to follow the EPPI guidelines

was the time available, which meant that it was not possible for more than one team member to read each piece of evidence. However, the overall project team, and Steering and Working Group members, were familiar with much of the material sourced. In fact they and other colleagues, including many in other countries, recommended texts to the review team.

The review was written using the Aspects as chapter headings and incorporating as many links as possible to the distilled child development information provided on the laminated cards (set out as sets of bullet points under the heading *Development Matters*, intended to act as sign-posts to young children's development and achievements in a particular area during their first three years of life). This inclusion, in the Framework, of possible patterns of development was not intended to create the idea that all children follow the same path. Rather, it was done to indicate ways of understanding what children are trying to achieve, how they are attempting to gain some control over their own lives and why the encouragement and support of adults and older children is important, if they are to 'make sense' of the world in which they find themselves. In the pack for the Framework *Birth to Three Matters*, the *Development Matters,* sections on each of the Component cards use the phases:- *Heads Up, Lookers and Communicators; Sitters, Standers and Explorers; Movers, Shakers and Players; and Walkers, Talkers and Pretenders,* to highlight the ways in which children's own growing competences influence their preoccupations and the kinds of learning opportunities they may relish as they become more mobile and gain control of their bodies and their environment.

For this reason, it was thought necessary to include two introductory chapters in the literature review. One discusses the complex nature of children's development, for example, raising issues related to the assumptions and values associated with certain research perspectives, or to particular views of early childhood. The other introductory chapter outlines some of the major theories that have influenced thinking about young children's development in Minority World countries, at the same time urging greater dissemination of theories from the Majority World. It also provides references to the research which led the proponent of a particular theory to reach such conclusions.

A Strong Child

In the Framework '*Birth to Three Matters',* the section entitled '*A Strong Child'* is concerned with the ways in which children's growing awareness of 'self' can be fostered in the years between birth and three, how they begin to show personal characteristics, preferences, capabilities and self-confidence, how they contribute to attachments and explore emotional boundaries, and have a sense of belonging. The research literature provided information about how babies and young children are helped to be and to become competent and emotionally strong. Research over many years has shown that early experiences are very important in shaping children's emotional health,

resilience and social competence, but that this is not a critical (ie. once for all) situation – we should not assume that support and intervention in the earliest years guarantees later success, nor that early disadvantage cannot be overcome. A further important aspect to developing as a strong child emotionally and socially involves the child's sense of self and, according to research, this too depends on the sensitivity and responsiveness of that child's primary attachment figures – the small, significant group of adults and older children with whom they form their closest relationships. Babies and young children will seek to draw these people into interactions with them, by increased smiling, cooing, babbling and other initiations of intimacy when they are nearby. The strength the yuoung children gain from these sensitive, responsive interactions helps them develop the confidence and self-assurance to become independent people with healthy self-esteem.

The review includes consideration of research concerning attachment difficulties faced by some children with special needs. Attention is also drawn to the ways in which children acquire the social practices related to particular emotions associated with the cultural group in which they are growing up. Additionally, the review provides research evidence about how babies and young children develop a sense of belonging to a family and to other groups with which they are familiar (such as an Education and Care setting). For example, research has shown that children who enjoy strong, positive attachments to their mothers are more likely, when a little older, to be conciliatory with friends and to enter elaborate, shared fantasy play bouts and conversations. Similarly, research suggests that young children who feel secure with their educarer are likely to be more gregarious and engaged in complex play with other children.

A Skilful Communicator

The second aspect of the Framework *Birth to Three Matters*, **A Skilful Communicator,** includes:- being a sociable and effective communicator; listening and responding appropriately to the language of others; and making meaning. To become skilful communicators, babies and children need to be together with the people who are important to them, with whom they have a warm and loving relationship. Being together leads to the wider development of social relations so children become adept at forming friendships, being able to empathise, and to share emotions and experiences. It is through these interactions and upon these foundations that they become competent language users. When early attempts at finding a voice are rewarded in a variety of ways, babies become more confident to extend their range of vocalisations and increase their language skills. Babies use their voices to make contact, to let people know what they need and how they feel. They are also starting to learn about 'conversation', which requires the ability to listen and respond appropriately, and to learn the 'rules' of communication through making meaning with the familiar people in their lives. One of the main 'messages' of this aspect of the Framework is that, above all, those

around them need to value, interpret and respond to babies' and young children's early attempts to converse.

The research evidence accessed showed how early in life babies have the ability to distinguish the language spoken by their mother and other family members (heard in utero) from other languages. They also appear to enter the world with a drive to be near those familiar people, especially those with whom they develop 'primary intersubjectivity' which involves the rudiments of turn taking, sensitive timing, responsiveness to others' behaviour and facial expressions. Early playful interactions of this type are called 'protoconversations' and they form the basis for the social and cognitive advances in the earliest years of life. Above all, the research showed that young children are brilliant observers, who try to make sense of their worlds and to communicate effectively, often using a range of gestures and sometimes more than one language. Between 12 and 36 months of age they grasp what is and is not culturally acceptable behaviour and speech and this is the result of being involved in interactions during the first year of life, where one is treated as if one is a person who understands and can respond.

A Competent Learner

This Aspect of the Framework *Birth to Three Matters* is concerned with babies' and young children's ability to make connections (for example, through the senses) and to begin to compare, categorise and classify; to be imaginative and creative; and to use symbols to represent thoughts and language. Babies only a few hours old gaze at patterns which resemble the human face in preference to random patterns. This shows that they are able to distinguish between things, and that they appear to come into the world 'programmed' to have preferences for human faces and human beings and movements. During the last two decades, a growing body of research evidence about early abilities has forced a change in scientists' assumptions and understandings about babies. Now, even newborns are thought to have an objective awareness of their surroundings. They search out patterns. In this way, young children learn to discriminate and make connections between different objects and experiences. As connections are made, children make increasing sense of the world and they do not have to wait until they have language to start thinking, however language and thought are developmentally linked and each promotes the development of the other. Research shows how the intimate, emotionally-laden paired interactions between a baby or young child and their significant others (loved, familiar adults or older children) form the foundations of cognitive development, the integration of personality and the ability to adapt socially.

As babies explore the world through touch, sight, sound, taste, smell and movement, their sensory and physical explorations affect the patterns that are laid down in the brain. Through repeated experience of people, objects and materials, young children begin to form mental images, which lead them to

imitate, explore and re-enact as they become imaginative and creative. Creativity, imagination and representation through mark making allow children to share their thoughts, feelings, understandings and identities with others, using drawings, words, movement, music, dance and imaginative play.

Thirty years ago it was argued that young animals play to learn and that the capacity for learning is related to the length of immaturity. During the first three years, babies and young children begin to rehearse roles, pretend and create play props, as their ability to imagine accelerates, along with their acquisition of language and their competent use of symbols in play. In the literature review, the processes (rather than products) of young children's activities are stressed, since, as Malaguzzi, the central founding thinker of the Reggio Emilia approach suggested, young children construct and reinvent their ideas, they are not possessive about them, and so they continuously explore, share, make discoveries and transform their understandings, becoming attached to new and exciting forms and meanings that they experience. This discussion of young children's developing cognitive and creative abilities includes ideas about mark making and their discovery of 'intentionality' – the desire to make a mark – linking this with children's multi-modal representations of the world and early literacy.

A Healthy Child

The fourth aspect of the Framework *Birth to Three Matters*, **A Healthy Child**, brings together evidence about young children's mental and physical well-being. Being healthy means much more than having nutritious food and being free from illness, so meeting the physical needs of babies and young children is fundamental to their well-being too. For babies and young children, being cared for and special to someone is important for their physical, social and emotional health and well-being. Health and social well-being underpin and determine children's responses to their environment, to people and to new experiences. Emotional well-being includes relationships, which are close, warm and supportive; being able to express feelings such as joy, grief, frustration and fear leading to the development of coping strategies when faced with new, challenging or stressful situations. Early emotional health and freedom from stress bodes well for both mind and brain. In the review we provide information about genetic factors which can predispose young children to health problems, as well as factors related to poverty and conditions in the child's environment which can contribute to disadvantage.

While stressing the importance of positive early experiences and their impact on the rapid brain development during these first three years, the review explains that researchers in this field are cautious about claims that certain experiences or products can boost brainpower or make long term differences. Neuroscientists do, however, talk of 'sensitive periods' when babies and young children may be especially receptive and both they and cognitive scientists advocate playful interactions with parents and other significant

people. Talk, making funny faces and having fun together are the ingredients which will effect brain development positively. Further, from around 18 months of age, interactions with other children are said to provide the stimuli for 'redesigning' one's brain, as each young child comes to realise that others have minds too and that these are different from our own. Research on brain development and memory indicates the importance of shared narratives, or stories, about our own and others' lives, in fostering the ability to organise the mind, create coherent internal integration and to make sense of other minds.

The review includes further discussion of research evidence about emotional and physical well-being, issues concerning safety and abuse, difficult behaviour and what it may mean. It also reports on early intervention programmes and the conclusions reached by evaluators in both the USA and the UK. They indicate the need to:-

- move to a 'joined up' model of delivery
- build on the model of Sure Start in areas of moderate disadvantage
- build the potential of parents and para-professionals for effective and cost effective identification and intervention
- harness the natural involvement of parents to build parenting skills
- provide for accreditation of prior experience and learning towards qualifications for para-professionals
- provide training for ECEC personnel which bridges the health-education divide
- provide training through a variety of models, including distance and part-time residential courses
- improve interagency communication, understanding and mutual respect
- ring-fence funding for identification and intervention for children from 0-2
- fund further research
- disseminate effective practice
- respect children's and parents rights.

From the USA, evaluators claim that effective programmes include attention to the following principles:-

- developmental timing (the younger the child is enrolled and the longer the intervention, the greater the benefits)
- programme intensity (the number of home visits per week etc)
- direct intervention (intervention professionals and para-professionals need to work with the children themselves as well as with parents, and to celebrate parents' and other family members' contributions as primary carers)
- programme breadth and flexibility (comprehensive/multi-route programmes generally have larger effects)

- individuals matter (matching the intervention to the child's or family's need)
- the intervention should be ecologically pervasive and maintained (early years interventions alone may not be enough, whole communities, involving local schools for example, tend to be more effective).

Many of the Government's initiatives, such as Sure Start, the National Parenting Institute, and the expanded role of health visitors are therefore encouraging developments in the spirit of these conclusions.

Conclusions and Implications

Above all, while the review process did not throw up any surprises for the review team, the wealth of research evidence which exists in this multiprofessional, multidisciplinary field is astounding. Most of this evidence has not been made available before to the field of Early Childhood Education and Care in a review of this kind.

The review process identified gaps in the research available, despite the wide range of disciplines covered by the search. Among others, there is a paucity of evidence about processes and practices in ECEC for children from birth to three years. In particular, the field needs research information about toddlers in educare settings, as well as that exploring the impact of practitioner training on the experiences of children and parents.

While providing key messages from the research (see key messages section above), the review concludes with three tightly focused pointers concerning each of the following groups:- children, parents, practitioners, policy makers, trainers and researchers. The unsurprising conclusions are that babies and young children:-

- need loving, responsive, sensitive key persons around them, people who recognise their fascination with and curiosity about what is going on in their world, who cater for their drive to explore and problem-solve through active learning, and who will provide opportunities to play, make friends and share experiences, and yet allow time for them to be deeply focused alone but near others, as well as ensuring all their health needs are met
- should be respected as people in their own right, and
- should live in a society which is informed about their development and learning, and which is involved and delighted in their amazing abilities.

The question that remains for debate, however, is how, as a society and as a field, we set about ensuring the fulfilment of these apparently obvious and simple conclusions.

Introduction: Birth to Three Matters

Why Birth to Three?

The expansion in childcare outlined in the National Childcare Strategy and the Green Paper (DfEE 2001) have provided exciting challenges and opportunities for those involved in the creation and development of out-of-home experiences for young children. The responsibilities that go along with these are enormous since, as the Green Paper states, young children's subsequent development depends critically upon their experiences in the earliest years of life.

The age of three, traditionally the start of Early Years Education in England, is also recognised by child development theorists and educationalists alike as a valuable starting point for education, but it is now viewed by many as too late to begin developing young children's potential. Recent research, particularly in neuroscience, has pointed to the fact that in the process of caring for, and, in the broadest sense, educating young children, no time is too soon to begin, with studies showing that right from birth (in fact, even before birth) children are already competent learners.

Goldschmied and Jackson (1994) refer to 'people under three', not babies, toddlers, or even children, but **people** with rights, which include being treated with dignity and respect (see also Leach 1994; 1997). They also emphasise the importance of good quality care being based not just on knowledge, but also on the ability of those adults to empathise with them, and to understand the experiences and feelings of young children imaginatively, especially when they are separated from their parents. Early Years and Childcare Partnerships and Early Childhood Education Units in different parts of the country have also begun to focus on this important stage in human life and learning, and are producing materials to support colleagues working in this sector (see for example Manning-Morton and Thorp 2001).

Government commitment to the care and education of our youngest children, in 2001, led to the commissioning and development of a Framework of Effective Practice, *Birth to Three Matters,* to support practitioners working with children from birth to three in England. The development of this Framework by Government is a milestone in recognising and valuing our youngest children and the contribution made to their growth and development by the adults in their lives. It raises the status of work with this important age group and marks the commitment of the present government to supporting quality and effective practice with children aged from birth to three, and to building upon earlier work (DES 1990).

Thus the Framework, produced as a pack of materials, was the result of a year-long project which involved children, parents, practitioners, early

childhood specialists, policy makers and researchers, working in partnership. The process by which the framework was created was an exciting and challenging one, involving consultation with practitioners, at every stage. Relevant research about the development of children during the birth to three phase underpinned the Framework and this research evidence was made available as an integral part of the pack. Here, it is presented in this additional publication, together with copies of some of the materials from the pack (the cards and introduction booklet), which form an appendix to this literature review.

About the *Birth to Three Matters* pack

There are five separate elements inside the Framework pack. These are:- an A3 poster, an Introductory Booklet, 16 laminated cards, a video and a CD-Rom.

The A3 poster provides, at a glance, a view of the Framework's four Aspects:

- *A Strong Child*
- *A Skilful Communicator*
- *A Competent Learner*
- *A Healthy Child.*

Each Aspect is further sub-divided into 4 Components, as follows:-

A Strong Child

- Me, Myself and I
- Being Acknowledged and Affirmed
- Developing Self- Assurance
- A Sense of Belonging

A Skilful Communicator

- Being Together
- Finding a Voice
- Listening and Responding
- Making Meaning

A Competent Learner

- Making Connections
- Being Imaginative
- Being Creative
- Representing

A Healthy Child

- Emotional Well-being
- Growing and Developing
- Keeping Safe
- Healthy Choices.

The poster can be displayed so that it becomes a focal point in discussions with practitioners and parents interested in learning more about the Framework.

An Introduction to the Framework, the introductory booklet, explains the relationship between the different elements of the pack and provides useful information about how the materials have been presented and can be used.

The **16 laminated cards**, which complement the poster, are colour-coded: purple for *A Strong Child*, pink for *A Skilful Communicator*, green for *A Competent Learner* and blue for *A Healthy Child*. Each card focuses on just one of the Components from any of the four Aspects described above, such as *Growing and Developing*, taken from *A Healthy Child*, or *Listening and Responding* from *A Skilful Communicator*. This is intended to allow for flexibility when practitioners begin to use the framework in planning for the experiences of children in their settings.

The **video**, which lasts about 25 minutes, introduces the Framework and is intended to give an insight into the different ways practitioners work with young children, as well as to illustrate how the very smallest interaction between a child and a childminder, for example, can help them in becoming emotionally strong, physically and mentally healthy, skilful at communicating and competent at learning.

Finally, **the CD-Rom** provides a comprehensive store of information, such as the extensive literature review; more information about the framework and young children under three; opportunities both to read about any areas covered by the cards or the video, or obtain further information, including access to still photographs, further video clips, worksheets, websites and addresses of relevant groups and organizations. Finally, the CD-Rom contains blank cards for each Component, as well as the full text from each card (either in the card format or Word format), which may be printed off for individual use.

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Different settings are expected to adopt individual approaches to getting to know the Framework, and whilst some may simply use the cards or video, it is important to remember that on their own each element is only a part of a wider resource. Other settings may arrange for several practitioners to get together to examine the pack in more depth and to plan how to use it in their daily provision. It must be stressed that there is no one way to use the pack, and providers should feel able to use elements flexibly to suit their own circumstances, their own pace of learning and, most importantly, the development of babies and children in their care. It is hoped that practitioners will find it helpful to become familiar with individual cards. For example, the Development Matters section of each card alerts practitioners to the ways children may be expected to develop in relation to the particular Component, and small symbols relating broadly to developmental shifts relating approximately to the phases 0-8, 8-18, 18-24 and 24-36 months are used to guide the reader to the relevant section. Look, Listen, Note suggests what to observe about children's behaviour and responses. Effective Practice and

Planning and Resourcing provide examples of the ways in which adults can plan and organise the environment and resources to support a particular Component.

The reverse side of each card includes information about ways of Meeting Diverse Needs and of providing Play and Practical Support, together with addressing Challenges and Dilemmas faced by some practitioners in their work. Finally, there is a Case Study or a series of photographs on each card, providing supporting information in the development of each Component.

Once practitioners have become familiar with the poster, the various cards and their layout, the video will help them to see how the Aspects and Components can be supported as children and practitioners focus on their daily activities and experiences in the setting.

The relationship between the cards and the literature review

During the year in which the pack was being developed, the structure of the Framework – the Aspects and Components – had been organised, based on the team's existing research and practice knowledge, and the fieldwork discussions with practitioners. Thus the literature review team set out research evidence using the same structure in order to inform the work on the pack and to write up a review which would relate meaningfully to the rest of the Framework.

The main body of the review and the comprehensive list of references follow in pages 4 to 129. Appendix 1 (the methodology) and Appendix 2 (the introduction to the pack explaining its contents and copies of the 16 cards covering the Components) form the final sections of this publication.

CHAPTER 1

The complex nature of the growth, development and learning of babies and young children

Nine month old William was sharing a meal, surrounded by members of his extended family, sitting in his high-chair. His older brother and cousins were enjoying the conversation with parents and grandparents. He appeared relaxed, 'at home' and happy. He was given a round slice of bread and, taking it in both hands, without any instigation from anyone else, he began making noises 'brm, brm', twisting the bread from side to side, like a steering wheel.

Families and practitioners who work with babies and young children have a fund of anecdotal evidence, like the story about William, demonstrating their amazing capabilities. Yet for too long perhaps, researchers thought that children under three could not do very much. This may be due in part to the ways in which research used to be carried out (Deloache and Brown 1987), since laboratory-based experimental research was considered the only reputable and scientific method and only a few researchers were brave enough to try to break this mould in order to provide more 'real-life' evidence (see for example Newson and Newson 1963). While there may be times when a laboratory experiment would be the best way to confirm or challenge a body of evidence gathered by other means, such approaches can influence a baby's 'performance' because of the effects of unfamiliar surroundings and people. In the literature review which follows, evidence from different types of research is presented, to try to provide a rounded picture of what we know at the start of this new millennium, about the needs and capabilities of babies and children aged from birth to three. It is hoped that the review will provide background support to those practitioners who are already very experienced and effective practitioners, as well as a useful reference document for others who may be involved in training, policy work – or simply interested in the state of knowledge in this growing, interdisciplinary field.

This review is primarily intended to supplement the pack *Birth to Three Matters: A Framework of Effective Practice to Support Children Birth to Three* and it is about the background research and thinking on which the pack is based.

Principles Which Underpin the Framework

In the Framework *Birth to Three Matters*, the principles underpinning it are identified from a number of sources including The Early Years Curriculum Group (1989); Bruce (1987); Lindon (2001); and other representative organisations, leading childcare writers and experts. These are as follows:-

- parents and families are central to the well-being of the child

- relationships with other people (both adults and children) are of central importance in a child's life
- babies and young children are social beings, they are primed to learn and communicate
- learning is a shared process
- caring adults count more than resources and equipment
- schedules and routines must flow with the child
- the whole day matters; babies and young children do not split up their lives into sections so neither should their adult carers
- children learn best when they are given appropriate responsibility, allowed to make errors, decisions and choices, and respected as autonomous and competent learners
- children learn most effectively when, with the support of a knowledgeable and trusted adult, they are actively involved and interested
- children learn best by doing rather than by being told
- children are competent learners from birth.

These principles are supported by research evidence presented in this review. However, the resulting Framework steers away from subject headings, traditional areas of experience and distinct curriculum headings and takes as its focus **the child**. It identifies four *Aspects* of development. These are:- *A Strong Child; A Skilful Communicator; A Competent Learner; and A Healthy Child.* Each of these Aspects celebrates the skill and competence of babies and young children and highlights the interrelationship between growth, learning, development and the environment in which they are cared for and educated.

In this chapter readers will find:- an introduction to some of the issues concerning research and theory focused on young children's development and learning; an outline of key research conclusions on risk and resilience linked to experiences in the earliest years; and a summary of key 'messages'.

Throughout the text we have added illuminative anecdotes about individual children, observed by family members who are both experienced early years practitioners and researchers. Some of these anecdotes have been used to show that while research can tell us much about children and their capabilities in general, there are times when a child will astound close family members by what Gardner (1993) called their flashes of brilliance. In other words, we hope parents and practitioners will read the review with interest but also with an open and critical mind, reflecting on the ways in which the research informs and relates to their own intimate knowledge and understandings about the particular young children they know as individuals.

Following this chapter, there are six further chapters. The second chapter, which is an introduction to theories and philosophies, explains the ideas and

thinking – 'grand' or *key theories* – which have helped people 'make sense' of what they believe to be patterns in very young children's development and learning. The subsequent chapters outline research, mainly that carried out during the last ten years, and review research reports relevant to each of the four Components of an Aspect of the Framework. Thus the review contains the following:-

- a discussion of issues and questions about Early Childhood and research, in this chapter
- a brief introduction to influential theories and philosophies concerned with early childhood in chapter 2
- information about research relating to *A Strong Child* (chapter 3)
- information about research concerned with the baby and young child as *A Skilful Communicator* (chapter 4)
- information about research focusing on *A Competent Learner* (chapter 5)
- information about research on *A Healthy Child* (chapter 6)
- and the review concludes with a further chapter providing selected pointers about the implications of the research for parents, policy makers, practitioners, trainers and researchers (chapter 7).

At the end of the review is a list of the references cited, together with the two Appendices – one explaining the review process, the other providing an introduction to the Framework itself, and the contents of the 16 cards presented in the pack.

Research, disciplines, assumptions and values

Owing to the broad scope of the Components in the pack, and the number of different disciplines, or areas of study, which inform the field of Early Childhood Education and Care (ECEC) concerning children from birth to three, this literature review covers a huge number of fields of knowledge, ranging from law, social work, health and medicine, to developmental psychology, linguistics, cognitive science and neurophysiology, policy studies and sociology. Such a review could also have included other areas of knowledge, such as historical studies of early childhood and childrearing for example, because these could have provided insights into the ways in which our attitudes to and beliefs about young children and their place in society have changed, and, as a result, how the ways in which we actually treat children under three have changed. Society changes over time and we can learn from analyses of these changes. However, to include all the fields and all the research that could be used would have resulted in an encyclopaedia, and taken far longer to compile than the time allowed.

We can also learn from observations and explorations of the ways in which people in other societies or countries treat their very young children, what they believe to be appropriate provision for them and policies for families. So

this literature review includes some reports of research from abroad as well as British evidence. Here we need to be cautious however, because different countries have different histories and what works for one society may not be right for another for many different reasons (Aubrey 2001; Penn 2001). In particular we need to be aware of the assumptions and understandings about babies and young children which are prevalent in different societies because these can affect researchers, as well as parents, practitioners and policy makers (David 1998; David et al 2000). It is important to bear in mind that the key theories and philosophies presented in the review have been developed largely in the industrial and post-industrial countries of the West/North (often called the Minority World) too, and that access to theories and knowledge from the Majority World countries could help us gain an even better understanding of young children's enormous potential and of how our assumptions may be limiting our expectations. At present we have access to far too little about theories and evidence from Majority World countries, so it is exciting that researchers and writers are beginning to make such information available. As Jerome Bruner (2000: ix) states:-

> 'There is nothing in the world to match child rearing for the depth and complexity of the challenges it poses both for those directly caught up in its daily intricacies and for the society to which child and caretakers belong. …To begin with, child rearing, given humans' cultural adaptation, is not straight-line evolutionary extrapolation of "biological species reproduction." Cultural adaptation, by any standard, is a big deal as well as a recent one, perhaps only a half million years old. Human immaturity seems shaped (if a bit haphazardly) to its requirements: not only to growing up per se (at best, rather a vapid idea) but to growing up Balinese or Ifaluk or Japanese. And it is not only prolonged helplessness that is special about human infancy, but its utter reliance on sustained and extended interaction with a committed and enculturated care-giver.'

This chapter will now outline some of the key issues involved in the study of babies and young children.

Is children's development and learning compartmentalised or holistic?

In the past, information about children's development and learning has often been presented according to aspects such as physical development; emotional development; social development; cognitive development; moral development; aesthetic development. As Greene (1999: 255) points out, there are now

> 'interesting signs of attempts to break down the long-standing barriers between the realms of cognition, emotion, and social development…In recent years there has been a welcome renewal of discussion of the need for an holistic model of development and models have been offered by a number of theorists …Adopting a particular perspective on what it is that develops can all too readily lead to a very thin vision.'

No matter how this literature review had been structured, whether through traditional areas of development such as 'cognitive', 'social', and so on, or through the components of *Birth to Three Matters*, which are called *A Strong Child*, *A Skilful Communicator*, *A Competent Learner* and *A Healthy Child* (all of which are explained more fully later), there would have been considerable overlapping of information. In real life, children's development and learning is not compartmentalised but is holistic, with many inter-connections across different areas of experience. Such areas have been defined in order to enable the study of that development and learning and as this review shows in the chapters which follow, researchers are aware of the ways in which the practice of compartmentalising can be both a help and a hindrance. So, in order to provide the background research to *Birth to Three Matters*, it seemed most appropriate to follow the same pattern, or structure, as the pack itself.

Thus, this review firstly attempts to give readers a clear view of the knowledge base by separating out aspects like the self, emotions and relationships (*A Strong Child*); communication and belonging (*A Skilful Communicator*); cognitive development and creativity (*A Competent Learner*); and mental and physical health, growth and safety (*A Healthy Child*), linking with the components of the pack, but readers will notice that there are many overlaps across the Components, because children develop and learn holistically, and their development and learning is not neatly divided into areas like 'boxes'. All of a baby or child's faculties and past experiences contribute, acting as potential foundations for new challenges.

The distinction between *development* and *learning* we have tended to use in the ECEC (Early Childhood Education and Care) field is that most *development* appears to occur spontaneously, without anything external to the child being involved, whereas *learning* is thought to be change which results from experience. There have been disagreements and debates about development and learning (see for example Morss 1990). However, Siegel (1999) points out that a large number of studies have now clarified this issue and that *development* should be regarded as the outcome of the impact of experience on inborn genetic potential.

So perhaps development does not happen quite as spontaneously as was previously assumed and all children need relevant and appropriate experiences coupled with the support of loving, sensitive and knowledgeable adults in order to learn and develop. Further, because children can sometimes have a variety of special needs, we should recognise those for whom development does not occur quite so readily. When this is the case, parents and children often require extra support to promote and enhance an individual child's competences and skills compared with other children who are progressing along a more conventional pathway.

> ‘In the early years/SEN realm intervention is purposeful and designed to effect as close a match as possible between a young child’s identified special needs and that provision or resources which will meet his or her needs and best facilitate learning and development’ (Wolfendale 2000:4).

This is best achieved through giving a child access to as normal a learning situation as possible within an inclusive ECEC context, whether a home or a group setting, where perceptive practitioners can take advantage of those ‘teachable moments’ (Wilson 1998:92) which occur naturally during the course of a day.

Continuity and discontinuity in children’s lives, development and learning

A further area of disagreement concerns the question of the significance of the earliest years of life and whether what happens during this period influences the whole life course. Certainly the Jesuits believed this stage in human life to shape the adult. Some psychologists have suggested there are ‘sensitive periods’ during babyhood, when certain experiences are thought to have most impact. Others, such as Bowlby (1969; 1973) claimed that there would be long lasting ill effects from experiences such as institutionalised care during babyhood. As Bornstein (1999) argues, the idea that early childhood is especially important is common sense. This is the stage at which the nervous system is immature and at its most plastic, and the prolongation of early childhood is thought to have adaptive significance. Thus it appears logical that the earliest years should cast an especially long shadow onto future life. Bornstein stresses the complexity of factors impacting on this early development and there are a number of research studies which confound the view that early childhood is a ‘critical period’ – meaning damage in this stage will be irreparable. For example, Rutter’s work with the Romanian Adoptees Study Team (1998) shows how children subjected early to very poor living conditions do catch up or at least are not irretrievably damaged. So Bornstein (1999) concludes that infancy is extremely important and is uniquely formative, while not determining the future development of the human being.

Taking continuity to mean ‘smooth’ development and learning, again there are questions about whether children experience ‘leaps’ in ability or understanding – for example in chapter 6 in the section about brain development, the view of Gopnik et al (1999) is presented. These American cognitive scientists argue that at around 18 months of age there is a change in children’s brain structure because the children’s brains ‘reprogramme’ themselves, as a result of recognising that other people have different minds / views/ likes from their own.

This leads us to ask if continuity of development might depend upon, or be linked to, continuity of experience. In the USA, Long and Garduque (1987) undertook research on continuity of care focusing on family daycare (childminding), through observations in the homes and daycare settings attended by 36 children aged between 32 and 55 months old, and through interviews with the children's mothers and care-givers. The researchers used statistical analyses of their results, showing that there were differences in the children's behaviours with their mothers and with carers, and that the children initiated more interactions with adults in their own homes, but were also ignored more frequently than in the childminders' homes. So while there was some discontinuity of experience between the settings, the children themselves were contributing to those differences. The researchers' discussions with both parents and carers suggest that these differences were an accepted – perhaps even welcome – part of the experience of day care. Like Dahlberg et al (1999) and Elfer et al (2002), these researchers argue that there is a need to view daycare and home care as different but complementary experiences, both capable of contributing positively to children's development and learning. For children with special needs, whose parents may particularly require support and respite, such complementary provision is frequently hard to find (Read 2000) and this can make continuity of experience and shared understanding a particularly serious issue for those parents.

Further, although individual children react differently to discontinuity in experience, it seems likely that the more severe the discontinuity, the more negative the effects. Endeavouring to provide as stable a situation as possible for all children is very important. This will involve ensuring the child is cared for by one or a very small number of familiar carers who complement parental care (Elfer and Selleck 1999; Elfer et al 2002). We will see just how important this ensuring of availability of familiar key adults is to children's development and learning as the following chapters detail the research on the different Aspects. We will also see how other children can be important members of that small group of key people.

Bringing together these two aspects of continuity/ discontinuity, we can conclude that while continuity of experience (eg. familiar carers) is very important for healthy, positive development, novelty and challenge within 'safe' contexts is also needed to stimulate learning and development.

Risk and resilience

Some of the most recent thinking and research about young children centres on risks which some children encounter, how some children are able to overcome the effects of these negative events or experiences, and the factors which can help in developing such resilience. Smokowski (1998) reviews prevention and intervention strategies for promoting resilience in

disadvantaged children aged between three and nine years old, which have been enacted in the USA.

In summary, the kinds of factors which appear to be linked to risk of less favourable development and lower achievement in learning include:-

- factors defined as within the child (intra-child), such as chronic illness, mental and physical disabilities. These may be classed as biological (eg. genetic disorders, exposure in the womb to the ill-effects of infectious diseases, drugs, alcohol); related to temperament – whether the baby is 'easy' or 'difficult', babies with irregular biological rhythms, irritable and hard to soothe babies – because these can put the parent-child relationship at risk and leave some children vulnerable to higher rates of anxiety in later life (Hirschfield et al 1992; Miller 1996)
- impaired parenting (for example, through severe parental mental illness, since this would probably mean the child being exposed to a number of interlinked risk factors, including times of parental absence; experiences of violence, impaired family relationships) (Engle et al 1996; Tebes et al 2001)
- social disadvantage, such as family poverty, lack of access to medical care, racism and minority status, exposure to community violence – including child abuse (Cairns and Dawes 1996; Davies 1999; Lowenthal 1998).

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It is thought that where a child experiences three or more risk factors, both parents and child may become overwhelmed and risk accumulates, particularly if there are no protective mechanisms in place (Garbarino 1993; Myers and Taylor 1998). Additionally, the length of time over which a child experiences risk factors decreases the likelihood of becoming resilient, particularly where life changes such as substitute care are involved (Henry 1999; Rutter 2000).

The ways in which risk is likely to increase its impact on a child and place that child in a position where it is difficult to cope with the stress involved are:-

- that the child has insufficient coping strategies. The younger the child the more likely the negative effect because of the child's inexperience. Farver and Frosch (1996) studied children who had experienced natural disasters and they found that those under five years old were more severely affected than were the older children
- the absence or inability of parents or carers who can support the child in coping
- the existence of a number of risk factors – even a child with supportive parents may not be able to cope with life in an area of poverty where violence is commonplace. (A number of studies link a wide range of risks to poverty and socio-economic status. These are reviewed in chapter 6.)

- the child has become passive as a result of too much stress (for example being subjected to frequent abuse)
- the child has become so used to trying to deal with stress, that s/he reacts inappropriately and rigidly in ordinary situations (for example acting aggressively to another child who shouts)
- having experienced numerous negative risk factors over a period of time, with little or no support (Sameroff 1993).

(Summary based on Davies 1999).

So what are the factors which appear to foster resilience in children? Factors linked to the child include:- good health; a positive disposition; a positive self-concept; good social skills; a balance between independence and interdependence; good relationships with other children. Protective factors allied to family include having:- strong attachment relationships (Masten and Coatsworth 1998); competent parents who model competence for the child; household rules and parental monitoring; a stable relationship between parents and absence of divorce/ separation (Pedro-Carroll 2001); family expectations about positive social behaviour; high levels of parental education. Those associated with the community involve:- access to health care; adequate housing; supportive adults outside the family; consistent parental employment; family participation in a religious community; not being poor (Davies 1999; Gilgun 1996), positive alliances between local workers and the community (Chenoweth and Stehlik 2001); positive attitudes on behalf of professionals (Clarke 2001); neighbourhood stability and policies which result in increased resources (Breton 2001). The importance of workers looking beyond the obvious risk factors is illuminated by Brodsky's (1999) qualitative research study of ten single mothers living in risky neighbourhoods in the USA. This fine-grained research shows that the blanket application of the assessment of risk results in incorrect assumptions about individual families and that it is important to take each family's unique strengths as well as weaknesses into account. Similarly, Daniel and Baldwin's (2001) work in Scotland has demonstrated that workers are good at assessing risk and identifying necessary resources, but that more attention needs to be paid to ensuring strengths (child, family and community) are assessed and used in structuring plans. Meanwhile in England, the Bridge childcare development service is exploring ways in which a society can create more resilient children (Hirst 1999).

Much of the research on resilience comes from the United States of America, but Osborn's (1990) research following up participants in the large-scale survey of British children born in 1970, reaches similar conclusions. Osborn looked at how socially vulnerable children became competent and found that having positive, supportive and interested parents was a major protective factor. Barker et al (2001) used longitudinal data to explore whether males who had grown more slowly in the womb were at greater risk when exposed to other negative factors during their lives. They found that men who had low

incomes and socio-economic status, especially those who had been thin at birth as well as having grown more slowly in utero, were the most vulnerable to heart disease. Meanwhile, Kelly (1996) reviewed some longitudinal studies and commented that the persistence of early problems need to be seen in the light of what is now known about risk and resilience.

While it is clear that risk and resilience are important issues for consideration in work with young children, some researchers are calling for more careful definitions and questioning the research methods used in certain studies (see for example, Kinard 1998; Luthar 1993; Luthar and Zigler 1991; Luthar et al 2000). Others (eg.Chambers and Belicki 1998) argue that in some cases the ability in adulthood to cover up the effects of bad experiences in childhood may not indicate well-being but may instead mean resilience relates to the ability to function appropriately in social situations. Further, Miller (1996) suggests that some of the strategies for successfully promoting resilience are as yet undeveloped as far as children and young people with learning disabilities are concerned. However, children who inherit medical conditions or disabilities can demonstrate resilience and develop strengths, which they use to inform society and support younger children in similar situations. Often this is achieved because a responsive adult recognises potentiality and encourages the individual's ability to say 'I can' rather than 'I can't'. There are many examples but perhaps some of the most renowned are Christy Brown who became an accomplished author; and Micheline Mason (1992), who sums up her own experience very positively, expressing her feelings of being a wiser, richer and more competent person than she would have been had she not been thus challenged.

Although it is very difficult to tease out what, among a complex web of factors, made some children in the study resilient, one key factor did emerge from research by Werner (1996). She undertook a longitudinal study of 698 children in the USA, begun in 1955, when the children were born. About one third of the children seemed to be *Vulnerable but Invincible*, and the key factor in their lives was that they had at least one very nurturing relationship. This could have been a parent, grandparent, sibling or a carer.

Can theories provide universal explanations for children's development and learning?

Developmental psychologists are not only debating the ways in which children's development and learning is holistic, they are also questioning the extent to which stage theories of development (such as those proposed by Freud, Piaget, Erikson and Kohlberg) can continue to be regarded as reliable (see for example Burman 1994; Morss 1990; Singer 1992). A stage theory puts forward the idea that there are particular patterns of development which are universal and which have fairly set age bandings when certain behaviours or abilities become possible. Thus stage theories are thought to impose a uniformity of both structure and direction onto changes related to the aging

process which may not be applicable to the psychological aspects of human beings. Although it is possible to modify sensory systems and the structure of the brain by behavioural experiences (Greenough et al 1987), experience impacts more strongly on psychological development than upon physical development (with the exception of certain illnesses, accidents and severe nutritional difficulties of course). As a result a child's psychological development does not simply 'unfold'. Because the appearance of teeth generally (though not always!) follows a particular predictable sequence, it does not mean that the changes occurring in cognitive development, or attachment, or having a concept of oneself, will be the same for every child in the world. So the question is – does development simply mean additions to children's knowledge and abilities, or are there actually qualitative changes in the underlying structure which mean children approach tasks or see the world in different ways when they are older? The idea of waiting for a child to develop, or mature, in order to be capable of learning something implies a belief in a pre-set, maturational stage theory, whereas it may be that an individual child requires certain experiences from which they can learn something in order that the desired development can then follow the learning on which it depends. As Bee (1989) suggests following her review of development theories and research, the concept of stages seems initially to be a neat way of organizing what we know, describing changes with age, but that once one embarks on a discussion of cognitive development the concept seems rather 'slippery' (Bee 1989: 12).

The idea that simple explanations could be found and then applied to children in any situation has also been called into question. Even some of the highly respected 'Grand Thinkers' in the field of developmental psychology (such as Bronfenbrenner, Bruner, Rutter, Baltes, Kagan, Donaldson) are willing to examine basic assumptions, reflecting

> 'changed consciousness and experience accumulated over the past decades to advance an understanding of children which does better justice to their complex, changing and multiple ways of being in and with their worlds.' (Greene 1999: 265).

So, while research projects are often looking for patterns which might act as guides to children's development, it is important to acknowledge the unique path of each child's development and learning, together with the potential influence of variations in cultural expectations (Woodhead 1999). In order to stress the importance of recognising this flexibility and complexity, the Framework *Birth to Three Matters* uses four broad categories to discuss different phases of development, based on the American High/Scope bandings. These equate roughly to:-

- **0-8 months: Heads up, Lookers and Communicators**
  During the first eight months, young babies react to people and situations with their whole bodies; nevertheless they are competent in observing and

responding to their immediate environment and communicating with those around them.

- **8-18 months: Sitters, Standers and Explorers**
  During the period from eight to 18 months, when babies' exploration of the environment becomes more intentional, their increasing mobility and language development enables them to find out and understand more about their world.
- **18-24 months: Movers, Shakers and Players**
  From 18 to 24, young children begin to show increasing independence and obvious pleasure in moving, communicating and learning through play.
- **24-36 months: Walkers, Talkers and Pretenders**
  From 24 to 36 months, children's competence at moving, talking and pretending is more and more evident and they show increasing confidence in themselves and skill in making relationships.

However, most of the research literature reviewed for this text uses the ages of the children who were involved, and, where that is the case, we have done likewise.

Perhaps above all, it is recognition for *meaning* and how young children and those around them share meanings in human life which is gaining ascendancy among researchers, so it is essential to acknowledge the plurality and uniqueness of children's experiences due largely to contextual and cultural differences. From a very early age babies and young children search for the meaning of the behaviours and speech of those around them. They often seem to recognise those behaviours which give someone power. *For example, when Coralie was eight months old she beamed and triumphantly waved the television control which she had managed to get hold of for the first time in her life. This object had meaning in her household – and she appeared to have realised that whoever held it had some sort of power (though she did not know how to use the control at that stage).*

Additionally, most psychologists no longer seek an answer to the question of whether the abilities and characteristics a child is born with ('nature') have a greater impact on their later achievements and personality than what they experience as they grow up ('nurture'). This thinking has been superseded by the recognition that both are interdependent, a point which is frequently reiterated throughout this text.

Defining children's needs

In attempting to establish evidence about effective practice in both home and group settings offering early childhood education and care (ECEC) for babies and children aged between birth and three years, it is important to take account of the kind of society in which children in England are growing up – that it is a multicultural, pluralistic, democratic society. This means that

children's *needs* will be defined in particular ways. Clearly, all children need adequate and appropriate nourishment and rest; shelter and protection from the elements and from harm; warm, responsive and affectionate relationships. Kellmer-Pringle (1980) suggested they also need opportunities to take responsibility and to be loved, which is implicitly reiterated as a need by the United Nations Convention on the Rights of the Child (United Nations 1989). However, many of the 'needs' that are considered vital are so defined because of the values to which a society subscribes (Woodhead 1990). Again, the call is for those of us in the field of ECEC to be aware of our judgements and the extent to which we are basing them on over-simplified generalisations about children and their upbringing. Martin Woodhead argues that we should take care in defining needs, and that we should be able to say why we subscribe to those in which we believe:-

> 'Children inherit a distinctively human nature as well as being brought up in a particular culture. Their dependency on others to protect their interests during the long period of human immaturity known as childhood means that judgements must continually be made by those responsible for them; although the length of their dependency and the cultural articulation of what is in their best interests will vary from society to society and from time to time. The challenge is not to shy away from developing a perspective on childhood, but to recognize the plurality of pathways to maturity within that perspective. This is all the more important at a time when the influence of child psychology is extending well beyond the societies (notably North America and Europe) from which dominant theories and research data have been derived.' (Woodhead 1990: 73)

Research has shown how children's needs are sometimes wrongly stereotyped because of ill-informed attempts at culturally defining them (see for example, Currer 1991). Dwivedi (1996) provides insightful and useful comment on professional inhibitions and clumsiness about racial and ethnic issues, cultural values and 'pseudo insight'. Perhaps the best way for a community to define what members regard as young children's needs would be to adopt the approaches of the world famous nurseries of Reggio Emilia in Northern Italy, where parents, practitioners and politicians meet regularly for discussions about how best to provide for young children, what childhood is 'for', and their place in society.

What this review does and does not cover

The review provides research evidence about babies' and young children's development and learning between the ages of birth and three years. Since the focus of the pack, *Birth to Three Matters: A Framework of Effective Practice to Support Children Birth to Three*[1], is the children themselves and

[1] It is important that the Framework is considered within the context of the National Standards for Under Eights' Day Care and Childminding (DfEE 2001a) together with the Curriculum Guidance for the Foundation Stage (DfES/QCA, 2000).

effective practice, this is what we have focused on in the review of research literature. The research reports used are largely, though not exclusively, from the UK, North America, Australasia and other European countries, (in other words the industrialised and information societies of the Minority World). In all we have provided references to more than 500 research reports and books about children's learning and development between birth and three years. Our search of the data bases yielded thousands of studies, many of which we had to eliminate (see Appendix 1 for information about how the evidence included in the review was identified). Thus there is a huge body of work which could have been included in the review. However, because of constraints of time and space, some of the less directly relevant topics were eliminated and some articles left to one side if their 'messages' were already loud and clear from other work. We apologise in advance to any colleagues whose work has not been cited for these reasons.

In addition, the focus has been on the children themselves and although research about parents, or policy, for example, frequently addresses issues which impinge on the lives of the children, these have not been covered, nor some of the more specialised research, such as that pertaining to particular medical conditions. Even some of the areas included could have been considered in greater depth but we hope readers will appreciate that each topic could be – and often is – the focus of a whole book in its own right. As explained earlier, the sources of the literature included in the review were largely:- published books, refereed professional and academic journals, websites and some unpublished reports, which can be found by scouring data bases in libraries. The other main source of information was contact with colleagues in the UK and abroad who have worked in the field for many years (see Appendix 1).

As stated earlier, chapter 2 provides an introduction to some of the influential theories about early childhood, theorists and their research, which have informed both subsequent research and practice in England during the last century.

In the third chapter of the review, *A Strong Child*, we present some of the thinking and research findings related to a child's growing awareness of self; recognition of personal characteristics, preferences and capabilities; the need for recognition, acceptance and comfort, and being able to contribute to secure attachments; being special to someone and exploring emotional boundaries; developing self reliance as well as self confidence; and having a sense of belonging. The concept of *A Strong Child* is one which runs throughout the Framework *Birth to Three Matters*. We all want children to be strong, capable, confident and self-assured. During the very early years, support for babies and young children is extremely important, as they begin on a journey of self-discovery from a base of secure relationships with parents and a key person. The beginnings of autonomy can be seen in the

relationships which exist as babies and young children play and explore in the context of a close, attentive and emotionally present adult. In order to become strong, the baby needs a nurturing environment in which their key person plays an essential role. By encouraging and supporting decision-making, empathising and providing opportunities for children, the key person helps them grow emotionally and respond to successes and challenges. In the Framework, *A Strong Child* explores the ways in which both the significant adults and the physical environment have an impact upon children's developing sense of themselves and their group identity, their affective (emotional) world and their relationships with others.

The fourth chapter provides research information and ideas about the baby and child as *A Skilful Communicator*. This includes:- being a sociable and effective communicator; listening and responding appropriately to the language of others; and making meaning. To become skilful communicators babies and children need to be together with a key person and with others in a warm and loving relationship. Being together leads to the wider development of social relations which include friendship, empathy, sharing emotions and experiences and becoming a competent language user. Early attempts at finding a voice are rewarded in a variety of ways, thus increasing babies' and young children's confidence and encouraging them to extend their range and increase their skills. Part of that, but by no means all, is simply learning to make sense of the sounds around them. This is not a simple task, as they have to begin to distinguish between the sounds of the language, including intonation patterns and wider environmental sounds. As the research outlined in chapter 4 indicates, from very early in life, a baby responds differently to some sounds over others and is able to distinguish sound patterns. Babies use their voices to make contact, let people know what they need and how they feel. They are also starting to learn about 'conversation'. This requires the ability to listen and respond appropriately, understanding the importance of paying attention to sounds and language, interpreting non-verbal signals, imitating, repeating and mirroring others. Babies and young children also learn the 'rules' of communication through making meaning with their key person and with other supportive adults and older children in relationships in which their early attempts to converse are interpreted, responded to and valued.

In the chapter *A Competent Learner*, making connections (for example, through the senses) and developing the ability to compare, categorise and classify; being imaginative and creative; and being able to use symbols to represent thoughts and language are the foci. Babies only a few hours old gaze at patterns which resemble the human face in preference to random patterns. This shows that they are able to distinguish between things, and that they like some things better than others. In this way young children learn to discriminate and make connections between different objects and experiences. As connections are made, the child makes increasing sense of

the world. As babies explore the world through touch, sight, sound, taste, smell and movement, their sensory and physical explorations affect the patterns that are laid down in the brain. Through repeated experience of people, objects and materials, young children begin to form mental images which lead them to imitate, explore and re-enact, as they become imaginative and creative. Creativity, imagination and representation through mark making allow children to share their thoughts, feelings, understandings and identities with others, using drawings, words, movement, music, dance and imaginative play.

Chapter six, *A Healthy Child*, brings together evidence about young children's mental and physical well-being. Being healthy means much more than having nutritious food and being free from illness. For babies and young children being special to someone and being cared for is important for their physical, social and emotional health and well-being. Health and social well-being underpin and determine children's responses to their environment, to people and to new experiences. Emotional well-being includes having relationships, which are close, warm and supportive; being able to express feelings such as joy, grief, frustration and fear, leading to the development of coping strategies when faced with new, challenging or stressful situations. This chapter is therefore closely linked to chapter 3, since, as we shall see, emotional strength and self-esteem are important antidotes to some forms of mental illness and relationship problems. Further, this is the chapter where readers will find a précis of the current state of information on early brain development, although once again the research links with and informs all the areas of development and therefore all the Aspects of the Framework.

Meeting children's physical needs is fundamental to their well-being. As s/he is growing and developing a child who is hungry, tired or uncomfortable will not enjoy the company of adults and other children. A child who is physically well will have the energy and enthusiasm to benefit from the range of activities on offer, equally s/he will get bored if choice is limited or provision inappropriate to her needs. Knowing when to ask for help, being protected and keeping safe with adult support, ensures that babies and young children quickly become skilful in a range of movements involving both large and fine motor control. In time, they make healthy choices as they learn about their bodies and what they can do.
The final chapter brings the review to a conclusion and draws out some of the major implications indicated by the research, for children, parents, practitioners, policy makers and researchers.

Summary of key 'messages'
In this chapter the contents of the whole text have been introduced and issues related to the study of young children's development and learning outlined. In particular the chapter has presented:-

- links with the Framework *Birth to Three Matters.* The discussion has also highlighted the importance of the experiences and achievements of **people under three**
- infancy as an extremely important period of life but not determinative
- the importance of providing optimal experiences, especially sensitive, positive relationships with a small number of familiar people, for children from birth to three, in order to promote development, learning and resilience
- the active, holistic nature of early learning and development and the notion that environment and genetics interact to produce development
- key information about the development of resilience, in particular, the crucial role played by a person or persons to whom a child 'matters'
- the need for practitioners and policy makers to be informed about relevant research and to recognise that while research and theory can provide trends and ideas, there will be variations in early learning and development – each of the children they know is unique
- the need for awareness of differences concerning early learning and development across time and space – the impact of cultural assumptions and how this plurality can affect not only the ways in which children are treated but also the assumptions underlying the research and theories emanating from different places at different times
- the importance of recognising the central role of parents, the primary educarers.

CHAPTER 2

Influential research and theories concerned with early childhood

How theories of child development can help us

Clearly there are problems connected with applying 'grand' theories to all situations for a number of reasons. Some theories can be seen to be specific to particular societies and to over generalise could be dangerous.

For example, the famous Swiss researcher Jean Piaget set out a theory of stages related to the development of children's thinking. One experiment demonstrated his theory as applied to the understanding of *conservation of volume* (water usually being used to fill the 'volume'). By this he meant that when young children are presented with a full, tall narrow glass of water and see all the water poured into a short wide glass, they will still argue that the tall narrow glass holds more water. Piaget (1955) claimed that a child needed to have reached between seven and eleven years of age before they recognise this thinking as incorrect. This example helps practitioners think about not only children's thinking and how deceptive appearances of certain phenomena and events can be to young children, it also makes us reflect on the kinds of questions we ask them, whether they are confused by the terminology – and also, perhaps, whether children often tell powerful adults what they think those adults want to hear! It should also make us reflect on the appropriateness of what we are demanding of young children, whether they have had enough real life experiences and hands-on activity to be able to deal meaningfully with the questions.

Corinne Hutt, who was herself Sri Lankan, carried out a replication of Piaget's conservation of volume experiment using water with children in both England and Sri Lanka. She found that the Sri Lankan children, who fetched water regularly for their families (and so 'played with' water on a more frequent basis), could understand this task at an earlier age than the English children, thus showing that the theory was 'context dependent' (Hutt 1979). In other words, familiarity with particular activities and experiences, usually those that are embedded in the everyday life of the child, lead to developments in the abilities involved, as Margaret Donaldson (1978) pointed out. The task for early childhood practitioners is to make activities meaningful to young children and so lead them from those that make sense within a particular context to those which are less context-dependent (for example becoming able to count a small number of objects anywhere when you are about four years old, because you have had experiences of counting drinks or seats needed for a little group, or other objects, in the familiar world of your home, childminder's or nursery).

Some researchers (see for example Dahlberg et al 1999; Singer 1992) argue that one cannot generalise about children's learning and development, that it is dangerous to impose ideas from one culture onto others, because it is important to take account of the context-dependent nature of children's understandings. After all, it is important to note, as we argued in chapter 1, that theories, as well as research, happen in particular places at particular times and both are therefore subject to cultural assumptions and values. However, the impact of postmodern ideas can sometimes mean that, unintentionally, a flight from theorising follows – 'throwing the baby out with the bathwater' - which can also be dangerous, because when we explore the reasons underpinning practice or policy we become aware of our own assumptions, ideas or theories, and we can enhance them by debating the 'grand theories'. Philip Gammage (1999:163) argues that the 'core of postmodernism is essentially this: a time when rules, customs, beliefs, values and ideas are subjected to reanalysis, when a greater awareness of their context-dependent, subjective nature is revealed.' By reflecting on 'grand theories' in the light of our own practical experience, we can decide how applicable each of them is to the children we work with and our own work contexts. But we also need to see the extent to which theories are supported by research evidence, at least where they can be researched empirically. We can then accept, adapt or reject the 'grand theory' in question and be more aware of our own theories – how we 'make sense' of children - and how our theories affect our work. So some researchers (for example, Raban et al 2002) propose that we should use a range of theories, while recognising their limitations, so that we can move the field of Early Childhood Education and Care (ECEC) forward, and include ideas and research findings from other relevant fields. This chapter outlines the major Minority World child development theories, which have influenced the field of ECEC and readers are urged to use the references to pursue further debate.

The issue of theories as cultural constructions

As a result of recognition that the child development theories espoused in the Minority World may be affected by the context in which they were developed – because the children and the researchers were influenced by the assumptions, values, expectations and practices of a particular time and place, theories are now seen as 'cultural constructions'. Nevertheless, as Bruce maintains,

> 'Theories help us to predict and to anticipate how children might behave and react. They help us structure what we observe. Theories help us to make sense of what we see…When we analyse play, we find ourselves linking what we have found with what other people (theorists) have found. We may find our observations fit with theories. We may find that they do not. This will help us think deeply…' (Bruce 2001: 19).

This chapter merely introduces some of the key 'grand' theories and the researchers who have proposed them. It is not possible to provide a long critique of each theory, simply to point up where further information can be found for readers who feel tantalised by these deliberately brief overviews. The theories included are:- psychoanalytic; learning; cognitive developmental; ecological systems; information processing; and language development theory.

Biology and maturation

Biological theories of human development usually suggest that there is a set sequence or pattern of change through maturation which is genetically programmed. The main pioneer theorist of this view was Gesell (Gesell and Armatruda 1947). According to this type of theory, an individual's temperament would also be inherited and persist throughout their life.

In the 1970s, in his work on the biological bases of human development, Hinde argued that in order to understand human development we should use the same approaches as those used to study animals – so what is known as human ethology was born (see Hinde 1982 for a discussion of Ethology). Studies conducted in the 1970s, such as Hutt et al's (1989) *Play, Learning and Exploration*, adopted this approach of non-participant, systematic observation in attempts to understand the processes affecting young children's lives and learning. The idea of the importance of bonding for a new born baby, or animal, and attachment to a particular nurturing figure (usually the baby's mother) links ethology with Bowlby's literature on attachment (see later). Other aspects of ethological theory include propositions about 'sensitive' (or, more rigidly, 'critical') periods; altruism – helping others for no apparent gain to oneself, especially in relation to survival and well-being (for example, is a human more likely to help a person who shares their genetic make-up than one who does not?); dominance and submission. The latter aspects link ethological theory with socio-biology (see for example, Dawkins 1976).

Thomas (1996) proposes a bio-electrical 'model' of child development which he claims explains children's physical development well in terms of the body's physical structure, but this approach fails to cover children's emotions and thoughts in any satisfactory way. The experience of young children born with immense physical problems, such as cerebral palsy or Down's syndrome, who have overcome many of their apparent difficulties to go on to lead rich and exciting lives also refutes this argument (see for example Grandin 1996).

To some extent, recent gene and brain research, together with some thinking from neuroscience may be reviving biological theories but critics are aware that there may be dangers in believing human development and learning to be fixed, limited or immutable.

Biological explanations of childhood

In exploring the evolution of childhood, Bogin (1998) argues that there are sound evolutionary reasons for prolonged immaturity, which include:- feeding (a child can be fed by any other member of the group once weaned); the relatively low 'cost' of feeding a child compared with a fully grown adult; the fact that nurturing can be done by other members of the species, so freeing the mother - children retain an infantile appearance, so stimulating nurturing responses; developmental 'plasticity' is possible – they can adapt to different or changing environments more readily. Bogin claims that these factors contribute to the superior survival rate of human offspring compared with other animals.

Freud and the Psychoanalytic tradition

Freud's psychoanalytic theory is important to the field of early childhood because he was one of the first to draw attention to the ways in which babies' and young children's 'inner lives' and experiences could be shaping their development and learning. He proposed different levels of consciousness in the mind, with the *unconscious* being a receptacle to which humans 'send' knowledge about aspects of their lives of which they either do not need or want to remain conscious. He also suggested that there are predetermined stages in human 'psychosexual development' and that the mouth, anus and genitals are sensitive parts of the body – *erogenous zones* – which are successively involved. Freud argued that children's childhood and adult relationships with others, and feelings about themselves depend upon their experiences during each of these psychosexual stages. Freud's 'model' of child development was largely derived from his reflections on his adult patients' recollections of childhood experiences and was not based upon observations of children. His daughter, Anna Freud, took his work on in this area, particularly in relation to psychoanalytic treatment for children with emotional problems. She adapted the ideas of psychoanalysis to provide understandings about all children. Although psychoanalysis has never appeared to have greatly influenced Early Childhood Education and Care (ECEC) in Britain, Freud and his colleagues must be acknowledged for drawing attention to the importance of this phase in life and to the fact that babies do have an 'inner life', which shapes their later interactions and well-being. These sentiments are painstakingly demonstrated in Miller et al's (1989) book, *Closely Observed Infants*, where such interpretations are discussed.

Erikson (1963; 1968) built upon Freud's theory to propose theoretical perspectives on healthy personalities and how they develop. He argued that growing up is a process of achieving a unified self that remains the same over time and that one accepts. This self should 'fit' with the expectations of one's society and culture and share some characteristics with others in that group. This was called having an *ego identity*. People who have attained an ego identity 'know who they are' and are comfortable within the group culture they

share. The effects of disability on the formation of a strong ego identity need to be taken into account. Positive thinking on the part of those who care for, and work with, very young children as they develop a sense of self are crucial.

> 'Recognising disability as a positive identity is not easy in our society. As they grow up, disabled children will receive negative messages about being disabled and need a positive internal model of disabled identity to counteract negative stereotypes.' (Marchant 2001: 221).

Erikson accepted Freud's stages and again built on these, suggesting the process of physical and psychological development begins in the womb and follows inner laws of development, so Erikson 'encapsulated the biological thinking and the prescriptiveness behind these stage theories' (Greene 1999:252). However, he also recognised that Freud's theory did not take account of the variations in the patterning of behaviour attributable to different cultures and he proposed that a number of psychosocial crises beset each individual in adjusting to a particular social environment. In the earliest years of life these include struggles between: *trust* versus *mistrust*; and *autonomy* versus *shame and doubt*. Erikson's theory has particularly influenced thinking about the development of self-esteem and the self-concept, which we explore further in chapter 3.

Following in this tradition, Winnicott (1964; 1971) and Bowlby (1951; 1953; 1969; 1973; 1980) were central figures in the British psychoanalytic movement. In particular, Bowlby's attachment theory was interpreted as indicating negative effects would result for babies whose mothers went out to work, and since these ideas were being disseminated shortly after the Second World War, when women were being encouraged to return to being home-makers instead of workers. As a result attachment theory has been regarded as having been used politically. Bowlby had concluded from seeing the grief and despair of young children separated for long periods of time from the adult/s to whom they had become attached (usually their mothers), that attachment is vitally necessary to the developing infant and that maternal deprivation would have damaging long-term consequences. (See chapter 3 for more about research on attachment). Later, in 1972, Rutter's reassessment of the basis for maternal deprivation theory was welcomed. Rutter pointed out how the ideas had been taken to extremes and his work through the last 30 years has continued to draw attention to the need to treat young children sensitively and for research to be used appropriately (see references to Rutter: chapters 1 and 3).

What Rutter stressed in particular about Bowlby's work, however, was that he had been right to draw attention to the poor quality of much substitute care at the time of his report to the World Health Organisation in 1951 and it is a message we should dwell on as we increase provision for babies and young children. In the same way that Bettelheim (1987) wrote about 'good enough

parenting', those in the field of ECEC need to debate 'good enough educaring'. One of the aims of this literature review is to help inform that very issue and encourage the debate.

Learning theories

Conditioning and Behaviourist theory

While the theories presented so far have begun from the notion that '*nature'* (what a child is born with) forms the basis for later development, Learning Theories are based on the idea that it is '*nurture*', or experience, that is the most influential in its impact on human development. Early research carried out in Russia by Pavlov, whose dogs salivated at the sound of a bell after a few exposures to the bell ringing as food was presented, began a theoretical perspective known as *conditioning.*

In the West, the most famous theorist in the Behaviourist tradition is Skinner (1938), who built on the early ideas of Watson in the USA, to formulate the theory of *operant conditioning*. This theory proposes that there are two types of reinforcement. The first is called *positive reinforcement,* and this means a reward is given for desired behaviour, while the second, negative reinforcement, means either something is stopped or something unpleasant, or punishment, happens when the desired behaviour is not shown. So for example, when an individual child allows another child to take and play with a treasured toy, s/he would be rewarded in some way (eg. praise, reassurance, being passed a different toy). This theory has underpinned many of the intervention programmes devised for children with special needs, for example, those developed by Bereiter and Engelmann in the 1960s, which still have echoes today. As a result of such approaches taking a largely transmission model of learning (ie. the adults know something they decide they will teach to the children and impose upon them), they do not take into account the rich, natural experiences available, such as those that arise during play alongside children, which use the children's interests to help them learn (Marchant 2001; Wall 2003).

Social learning theory

Albert Bandura (1973; 1982; 1992) is the key proponent of this theoretical perspective. This theory argues that much early learning comes from the child actively *imitating* or observing *modelling* by others in the family or group. Social learning theorists would argue with the Behaviourists, by saying that children learn when they do not get a direct reward, for example, saying 'thank you' because this has been modelled by key people in their lives. One of the essential messages to come out of this theory for the early years is that Bandura suggests babies and young children can learn from us as *models* of actions but also of thinking – if we talk out loud as we are solving a problem, we are modelling our thinking. Since being able to pay close attention to the model's behaviour and/ or language is important for this theory to apply, Bandura (1992) says that adults alter their behaviour when they model for

children because they can recognise the need to compensate for the fact that their young partners have 'attentional limitations'. He puts forward the idea that parents gain children's attention and then highlight the behaviour patterns they want to encourage by selectively imitating them in an exaggerated, and often entertaining, fashion.

Further important aspects of this theory are concerned with:- children's memory skills, the ability to convert conceptions into appropriate actions (these are thought of as transformational skills); and motivation – having incentives for wanting to imitate modelled behaviour.

Bandura comments particularly on gender-role development and his theory can be seen to be relevant to the ways in which very young children notice verbal labelling, the categorisation of males and females in the world around them, and the modelling of gendered roles. Thus, according to this theory, adults will influence children's outlook and behaviour through their own modelling. Engaging in positive, 'out loud' thinking and problem-solving, they can help children develop these behaviours and attitudes too, as Sally Lubeck's (1986) research demonstrated in two different nursery settings, where the children were respectively independent and competitive or interdependent and cooperative, in line with the values embedded in each setting's practices.

Cognitive developmental theories

Jean Piaget's Cognitive Development Theory

Piaget thought of knowledge not as a body of facts stored in the human mind but as a process and he argued that the older a child becomes the more s/he is able to produce mental images, thinking about things through *interiorised action*. So for Piaget, a child's development was characterised by a constant effort to refine and expand a 'repertoire of mental actions' (Thomas 1996: 234).

As organisms, humans were thought by Piaget to be also constantly adapting to their environments and he called the processes by which humans do this schemas (or schemata). Athey (1990), who has carried out much research on this area, defines a schema as: 'a pattern of repeatable behaviour into which experiences are assimilated and that are gradually coordinated' (Athey 1990: 37). She has identified and named a number of these patterns of behaviour. For a baby, grasping a toy, or a feeding bottle, can be a schema, because in babies schemas are limited since a newborn baby will only have reflexes such as sucking or crying, but the number of schemas, particularly intellectual schemas, will increase rapidly during the first year. At the same time the schemas are becoming interlinked in a very complex way. Piaget called the processes by which schemas evolve *assimilation* and *accommodation*. According to this theory, assimilation is the process of absorbing new knowledge and fitting it into what one already knows.

Accommodation happens when what one knows is not easy to match to some new knowledge, so the 'old' knowledge is changed in some way, so that new and old fit together and make sense.

Piaget's theory has been influential in the field of ECEC and he was in constant contact with the English nursery pioneer Susan Isaacs, who debated his theories with him on the basis of her observations of young children. His work was often interpreted as meaning that children should be provided with an environment rich in possible experiences, but one in which the adults did not join in the children's play bouts. (See also chapter 5).

Piaget is also well known for having proposed a series of broadly age-banded, but universal, stages in children's development. The two stages most relevant to this review are that from birth to around two years of age – the *sensorimotor* period; and that from roughly two to seven years – the *preoperational* thought stage.

The sensorimotor stage Piaget further subdivided into two main sub-periods with six sub-stages, the first being one lasting about four months, in which babies are said to concentrate on their own bodies, repeating actions over and over, then in the second sub-stage still repeating actions even when they are in different or less familiar settings. By about one year old, according to this theory, an infant is experimenting, trying to discover in what ways an object or event is novel. The very young child is thought to be gradually coming to know about permanence and about cause and effect. By eighteen months to two years, an infant is said to no longer need actual objects to solve problems, because s/he can hold a mental representation of them in her/his mind. Piaget stressed the importance of language during the preoperational period, because being able to use language enables a child to communicate more effectively with other people, to internalise words as thoughts, and to internalise action. Children at this stage can increasingly imagine things they cannot see or events that happened in the past.

So Piaget's theorising has been important in the understanding of *object permanence* – meaning that in the early phase of life a baby does not know that objects – or indeed people – still exist when they cannot be seen. This is one of the explanations for the fact that when only a few months old, babies do not seem distressed when their familiar carers or parents leave, but later – by around six to eight months, they do become distressed. Piaget also thought that very young children are unable to distinguish themselves from the environment – so it is by sensing the difference between putting one's toe or a toy in one's mouth that a baby begins to know the boundaries of the self.

Members of the group known as the Post-Piagetians have recognised the ways in which criticisms of his theories needed to be addressed, for example

by exploring the extent to which a child's thinking is dependent on context (see for example Donaldson 1978).

Another psychologist who adopted Piaget's framework, Kohlberg (1984), proposed stages in children's moral development. While much of his work is concerned with older children, his ideas about the ways in which children internalise moral standards can inform early years practice. He suggests that children from families which discuss moral issues, explain moral judgements, and model behaviour based on a moral code have a firmer grasp of moral issues. Kohlberg called this earliest stage in his theory the *premoral* level. According to Kohlberg, in this phase a child will accept an adult's verdict on whether something is right or wrong. Gradually, a child learns to act in ways which will gain approval, so their moral judgement is dependent on the judgements of the adults around them. Later in life a child will internalise official rules, perhaps also reaching a point in development when s/he makes moral judgements based on universal ethical principles.

Carol Gilligan (1982) provides a challenge to Kohlberg's theory because she argues that there will be differences in moral decisions, depending upon whether a person's moral stance is based on abstract principles or upon attention to the effects on people. Gilligan argues that women and men take these different principled standpoints to underpin their moral decisions, with men using general, abstract principles or rules, and women tending to care more about the effects particular decisions or actions would have on people.

Piaget's ideas and research have been important to not only those known as the Post-Piagetians – like Donaldson, Hughes, Grieve and others – but also to more recent work by researchers such as Karmiloff-Smith (1992) and Gopnik et al (1999), who indicate his enduring influence. In fact the latter group maintain the spirit of Piaget but give a current twist to his work by demonstrating that babies 'arrive' knowing a lot, use this to learn more, and need other people interacting with them to help with that learning our knowledge emerges from the ideas we start out with, our interactions with other people and our inherent ability to learn (Gopnik et al 1999). These contemporary researchers, while following in Piaget's tradition of recognising the ways in which children actively construct knowledge, have overcome the emphasis on the world of objects by suggesting that babies focus first and foremost on people, and then on the objects and materials around them (Gopnik et al 1999; Goswami 1998; Mandler 1999; Murray and Andrews 2000).

It is these 'messages' that we can take to help us understand early development and learning – that right from birth, young children are active learners, deeply interested in people, who are trying to 'make sense' of the world around them.

Vygotsky's theory of child development

Although the Russian psychologist Lev Vygotsky died in the 1930s, his ideas did not reach the West until about 30 years later. His theory is based on the following ideas:- that activity generates thought; that language and thinking develop separately but relate to each other in a very complex way; that children pass through the same sequences in stages of development but that 'Higher psychological functions are not simply superimposed as a second story over the elementary processes; they represent new psychological systems.' (Vygotsky 1978: 124). For those in the field of ECEC, Vygotsky is important because his work recognises the key role played by adults and other children who know more than the baby or young child and who support the baby in learning. In other words his theory recognised that learning is a social activity that happens in culturally relevant contexts. Where Piaget was depicted as seeing the child as a 'lone scientist' during play, Vygotsky's theory has been characterised as portraying the young child as learning and developing in playful interaction with others.

Building on Vygotsky's ideas, Bruner (1984;1990) and Nelson (1986) have provided much valuable theorising concerned with human development and learning, in particular popularising the notion of 'scaffolding' - the behaviour and language that adults and 'significant others' provide for young children to help them achieve something in which they are interested.

Vygotsky and Piaget were in broad agreement that children are **active learners** and that knowledge is not acquired by a process of accretion, rather the child 'constructs' knowledge, transforming both the new knowledge and existing knowledge to 'make sense'. While Vygotsky emphasised the social and cultural aspects and the biological aspect of learning is implicit, Piaget put more emphasis on the biological, with the social aspect being implicit and the cultural absent – hence the work to redress this by the post-Piagetians (see above).

Ecological systems theory

By 1979 Bronfenbrenner (1979; 1992) had recognised that the contexts of children's lives impacted upon their development and learning and that they in turn impacted on one another. He was critical of theories which did not take into account the 'time and place' elements which mean that children experience different childhoods in different communities and in different historical eras. While he insisted that young children are actively involved in their own development and learning, his theory pointed up the ways in which what happens to children and the kinds of societies in which they are brought up impacts on that development and learning. For example, a child's home and family would be affected by interactions with a childcare setting, a religious community, the local authority or health service provision, and overall by the kind of society in which the child lived. In turn, that society or nation would be influenced by world events and thinking – a good example of

world level influence might be the UN Convention on the Rights of the Child (United Nations 1989), which has influenced policy in many countries and its effects have filtered through to other levels in society. What complicates this theory for many people is the fact that each of the levels of his theoretical model would be dynamic and changing. It was not until almost twenty years after his initial publication about the theory that Bronfenbrenner (Bronfenbrenner and Morris 1998) admitted that he also needed to take account of 'within child' differences which, in their turn, would also influence the child's life course. In acknowledging that children actively influence their own development and learning, Bronfenbrenner focuses on the ways in which children interpret the contexts of their upbringing, rather than on objective measures of those environments.

It is, on Bronfenbrenner's own admission, a difficult theory to corroborate by research, because of its complexity. The theory does, however, 'make sense' because it attempts to take account of all the aspects of human life and interaction which impact on children's development.

Information Processing Theories

A number of theorists have tried to equate human learning with the functioning of a computer. Researchers in the field of AI (artificial intelligence) make comparisons between human thinking and computers when attempting to produce computer simulations. Perhaps the main points in this theory that might help us include:- children become capable of making automatic responses rather than conscious ones after gaining experience (say, in walking, once they no longer need to concentrate on managing their balance); they become more and more capable of doing more than one thing at once as they get older; the amount children know implicitly, or 'intuitively' (tacit knowledge) increases with age, so they can draw on this tacit knowledge to assist them in solving problems; the knowledge stored in the long-term memory is more complex and refined and children gain greater control over their own ability to concentrate on something as they get older. Naturally, it is important to take into account that information processing theories focus on thinking and ignore the interplay of cognitive with physical, social and emotional development (see Thomas 1996).

Perception and understanding – the role of the senses

Humans, like other animals, perceive through their senses. We assume babies and young children can do this – but what do we know about children's seeing, hearing, touching, smelling and tasting? What are newborns able to see, hear, smell, taste and feel? Gibson, one of the main theorists in the area of perception suggests that perceptual development does not seem to occur in stages but change in perceptual ability occurs on different dimensions (Gibson 1969; and see Bremner 1998). Firstly, we now know that even very young babies are purposeful in their perceptual activity – they seem to use some inbuilt strategies, such as the ability to perceive

objective properties of space and objects; and that by three months of age they are quite aware of the physical properties of the world around them. Secondly, babies are very good at becoming aware of what the appearance of objects tells them the objects can do or can be used for; babies gradually become able to focus on detail and to make finer discriminations; and finally, young children become more able to concentrate on those aspects of an event or situation that are important to them, blanking out any peripheral noises, etc. The reason why psychologists are especially interested in early perception is that changes are so rapid at this age. In the subsequent chapters of this review research evidence about these abilities is highlighted.

Theories about Language Development

The earliest theory about language development assumed that children acquire language through imitation. While research has shown that children who imitate the actions of those around them during their first year of life are generally those who also learn to talk more quickly, there is also evidence that imitation alone cannot explain how children become talkers. For example, in the English language, young children will say 'We goed to the shops' – they are very cleverly inventing the past tense of 'go' based on the rules they have absorbed.

Skinner, the Behaviourist theorist (see above), suggested that children learn language through reinforcement. In other words, when a parent or carer shows enthusiasm for something a child tries to say, this should encourage the child to repeat the utterance. But again, even though reinforcement may help, this theory cannot account for children's inventions of language.

Some argue that it is not just hearing language around them that is important, it is the kind of language – whether it is used responsively (for example, following a baby's input, such as the baby making a noise or doing something). It is also clear that babies need to hear language to develop this themselves. This point is of great importance in relation to young children with impoverished language experience (see for example Ward 2000). The idea of *motherese* (Snow and Ferguson 1977; Trevarthen 1995) – accentuated, tuneful, accentuated speech to babies and repeating their own language (often extended) back to young children – was posited as a basic human requirement. However, other research (see Bee 1989) indicates that while motherese can be used to explain how aspects of individual children's environments help or hinder them from talking, it does not explain the underlying causes of language acquisition. We can at least suggest that talking in motherese attracts and holds babies' attention and that it allows the infants themselves to take part in enjoyable turn taking exchanges, the beginnings of conversations (see also chapter 5).

Chomsky (1965; 1975) proposed that babies are born with an inbuilt *Language Acquisition Device* (LAD). He suggested that language then simply

emerges as the child matures. Slobin (Ferguson and Slobin 1973; Slobin 1985) continued this line of thought, proposing that just as newborns come into the world 'programmed' to look at interesting, especially moving, objects, so babies are pre-programmed to pay attention to language. One problem with this theory is that children seem to have great proficiency in acquiring whatever language/s they hear around them and during their first year of life they will gradually discard from their repertoire of vocalisations sounds which they do not hear in the speech of those with whom they spend their lives – but of course the pre-programming does not need to be thought of as tied to a specific language. Like Trevarthen and others, Chomsky indicates the centrality of interactions with familiar adults and older children from the earliest days of life. Parents and practitioners need time to enjoy '*proto-conversations'* and as we will see later, research has shown that treating babies as if they understand talk and involving them in conversational exchanges are essential experiences on which later abilities are founded.

Piaget argued that language is an example of symbolic behaviour, and no different from other learning. One of his colleagues, Hermine Sinclair (1971), proposed that a child's ability to nest a set of Russian dolls uses the same cognitive process as a child needs for understanding how sentences are embedded in one another. Nelson (1985) and others, using this cognitive processing explanation, think language is an extension of the child's existing meaning making capacity. This seems to fit with the fact that children will generally begin to engage in pretend play at about the same time as their first words are expressed, indicating that they are using symbols in the form of words and also symbolic pretend objects (for example using a block as a pretend cake).

Following on from Vygotsky's social learning tradition, Bruner (1983) stressed the importance of opportunities for babies and children to interact with, and observe interactions between, others. As we explained above, this idea is supported by research showing that mothers who behave as if their babies and young children understand language right from the start, make eye contact with them and engage in dialogue, responding to their babies' reactions (kicking, waving arms, smiling, etc) are laying the foundations of conversation.

Karmiloff and Karmiloff-Smith (2001) argue that none of these theories about language is, on its own, adequate in explaining language development and learning in the first three years of life, and that we need to take account of each of them for their ability to explain part of the story.

Theories about Early Childhood Education and Care

While our aim in this chapter has been to present outlines of the main influential research and theories about children's development which have been adopted by those working in the field of ECEC in Britain, practitioners

might also like to refer to the theories and philosophies of the great pioneers of the ECEC movement in this country. These include Robert Owen, Johann Heinrich Pestalozzi, Friedrich Froebel, Maria Montessori, Rudolf Stein, Margaret McMillan and Susan Isaacs (see for example: Bruce 1987; Curtis 1998; David 1990; Isaacs 1930, 1933). More recently, ideas from the famous nurseries of Reggio Emilia in Northern Italy have become widely circulated in this country. Their philosophy is based on the notion of educating young children to be independent thinkers who use 'the hundred languages of children', expressing concepts and emotions, especially through the arts, with the support of each other and sensitive adults. The nurseries of Reggio were founded as an antidote to Fascism and abuse of power. (For more information see Abbott and Nutbrown 2001; Edwards et al 1998).

Recognising and reflecting on our own theories

Each of us holds theories about early childhood. Our theories have been built up through our own experiences as children, our experiences with children, the theories of those with whom we have had contact, and the theories we have read about. The practitioners in Reggio Emilia discuss their work and ideas and read widely, supported by *pedagogistas* (inservice trainers). They claim that the theories they work with are their own, shaped by the constant challenges of experience and reflection.

Summary of key 'messages'

This chapter has presented information about:-

- some of the theories which have been adopted in the field of ECEC in the UK and how they can help us reflect on our own theories and upon observations of children with whom we live and work
- how cultural contexts influence research and theorising
- the holistic nature of early learning and development
- the impressive meaning making capabilities of babies and young children
- the active nature of their development and learning
- the importance of positive interactions with adults (and older children)
- the role of modelling positive attitudes and behaviour
- the importance of feedback and reinforcement
- early childhood is an important phase on which later emotional development, relationships and self-concepts are built.

CHAPTER 3

A Strong Child

In the Framework *Birth to Three Matters,* the Aspect entitled *A Strong Child* is concerned with the ways in which children's growing awareness of 'self' can be fostered in the years between birth and three, how they begin to show personal characteristics, preferences, capabilities and self-confidence, how they contribute to attachments and explore emotional boundaries, and have a sense of belonging. In this chapter, relevant research findings are provided, and their implications for practice are pointed up. Links with the Framework are made through the inclusion of the *Development Matters* statements from the cards of the Framework in short summary sections within the chapter.

Earlier in this review, in chapter 1, evidence about *resilience* and the ability to cope with challenging life situations was introduced. In this chapter we provide a review of the literature about babies and young children being and becoming competent and emotionally strong and how the adults and other children around them contribute to this important development and learning.

The longstanding contribution to this area of knowledge by Ann and Alan Clarke (1976; 2000) should be acknowledged. In their recent publications (Clarke and Clarke 1996; 2000) they review hundreds of studies supporting their view that we need to be wary of attributing a simplistic causal importance to early experience and later life achievements. They conclude that:-

1. theories which claim the earliest years to be of overwhelming importance to the extent that life is predetermined by what happens during this period are clearly wrong;
2. widespread belief in the types of theories described above (in point 1) can lead people to underestimate what can be done for children suffering disadvantage so that less than adequate interventions are effected and in some cases there will be no action at all;
3. however, the Clarkes are clear that what happens in the early years is very important but their research indicates that children's experiences in this phase are no more than a first step in an ongoing life path. Any life path may turn out to be 'straight or winding', with advantages or disadvantages, and these depend upon the two-way relationship between individual people and the contexts in which they grow up. No one time in life is more critical than another; every phase is important.

In other words, the Clarkes are arguing that **early life experience is important,** but we should not assume that support and intervention in the earliest years guarantees later success, nor that early disadvantage cannot be overcome.

Two other key figures who have devoted years to research on early childhood maintain that the number of factors involved make this a highly complex research area. Schaffer (1998) concludes that subsequent influences can impact to reverse the ill-effects of poor experiences in early childhood and Rutter (1999) that the effects of numerous, apparently linked, negative experiences are usually indirect rather than directly linked to babyhood and early childhood. He states 'Life transitions have to be considered both as end products of past processes and as instigators of future ones' (Rutter 1989: 46). More recent work by Kagan (1998) also argues that predicting the life path is an uncertain business.

However, Konner (1991), arguing that it is not stress that kills us but adaptation to stress that permits us to live, because life is uncertain, states:-

> 'our responsibility *to babies and children* is clear: it is not to eliminate stress from children's lives completely, since that is beyond our capacity; rather, it is to help shape responses to stress that will somehow permit them to live.' (Konner 1991: 225, *our italics*)

More than this, however, we presumably want our children to live happy and fulfilled lives, and to meet challenges with zest and enthusiasm. Paradoxically, of the children tracked into adulthood by Werner (1996), almost half the resilient 'at risk' group declared themselves happy with their adult lives, compared with only ten per cent of the low risk comparison group. Konner goes on to discuss societies where children have grown up through times of enormous stress, yet have made happy and successful lives for themselves. So how does this strength and ability to face life with joy come about? The common strand found by the researchers seems to point to the need for each child to have, from early in their lives, at least one person with whom they have a strong and meaningful attachment relationship, that they 'matter' and that what they do 'matters' to someone. A further important ingredient may be having a strong sense of *self*, a *self* who achieves goals and of whom one can be proud.

Me, Myself and I: a growing awareness of self and the role of attachment

Although researchers a quarter of a century ago argued that children do not develop a sense of self (ie. recognise themselves as separate people with an individual identity) until their second year of life, more recent research (Bretherton et al 1981; Odofsky 1987) is clear that this amazing feat begins soon after birth. Since the concepts of *sense of self* and *development of self* are abstractions, they are difficult to track and they are not as easily quantifiable as are the developments one can actually observe in motor and language development (Davies 1999). It is in the everyday interactions of being cared for that babies begin to become aware of themselves. As the Framework *Birth to Three Matters* points out in the Component *Me, Myself and I*, babies are being made aware of the human world outside themselves

and, importantly, aware that they themselves exist, as a result of being touched, talked to and gazed at (Alvarez 1992).

Even in the first month of life, babies are making distinctions between people, objects, self and other (Stern 1985; Rosser 1994). For example, the parent or carer will, at the start, be the one mainly responsible for the way in which feeding proceeds. As the baby becomes more able to participate and take control to some extent, the way in which a sensitive adult allows for this will influence the baby's feelings of efficacy. We say the adult is behaving 'contingently', being responsive to the baby's signals and so, while the main focus may be the feeding, babies treated in this way are learning that they can influence their own lives.

A number of studies have linked the quality of a child's sense of self to the quality of attachments. It would be impossible for a child to develop a sense of self without feedback and recognition from those with whom they spend their lives, so they are dependent on those people for a positive view of themselves. They are, according to Post and Hohmann (2000), from within themselves, powerfully motivated to learn, using their whole bodies and all their senses. They have strong urges to communicate what they know and they depend on those with whom they have trusting relationships to provide the encouragement and affirmations they need.

Attachment theory was formulated by Bowlby (1951; 1953; 1969; 1973; 1980) and supported through later development by his colleagues (see for example Robertson and Robertson 1989). Although the ways in which attachment behaviour is expressed is different in different cultures, it is thought by some researchers to be universal (LeVine and Miller 1990). Bowlby thought of attachment as a device, which is intended to protect the immature offspring of a species to attract adults who will ensure their survival. He theorised that early attachment behaviours are innate and that while a newborn can be comforted by anyone, babies very soon differentiate between their primary attachment figure and other people. Attachment is seen as a device which provides the baby with a sense of security and promotes communication and the expression of feelings. The attachment relationship also acts as a secure base for 'exploring the world' and the primary relationship/s a secure base for learning self-regulation, or self control (at this stage, the sensitive regulation of arousal and distress.)

Mary Ainsworth (1967) used Bowlby's attachment theory to study babies in Africa and the USA. She found that in both cultures, children showed attachment patterns but that there were some differences. She devised an experiment known as the *Strange Situation*, where a stranger to the child would enter the room sometimes when mother and baby were together, at other times when the mother had briefly left the room. Ainsworth argued that the baby's response on the mother's return was a measure of the quality of

their attachment. The quality of this first attachment was said to set the scene for all later relationships by 'modelling' for the baby what all relationships will be like. Ainsworth's Strange Situation research has been criticised, (see for example Clarke and Clarke 2000; Kagan 1998; Harris 1989; Singer 1993), because children in different countries, cultures and subcultures display different approaches to attachment, different rates of 'ambivalent attachment ' (apparent rejection of the mother, resistance to her attempts to pick them up following the strange situation) and because the research approach itself is thought unnatural and therefore prone to 'error '. For example, apparent rejecting behaviour at around a year of age may be quite common in some communities and need not, on its own, indicate poor attachment.

While some recent research continues to focus on mother-infant attachment, disruptions to this process and to emotional development linked to problems such as postnatal depression (Cooper and Murray 1998; Murray and Cooper 1997; Kumar 1997; Teti and Gelfand 1991), other recent research suggests that 'the family' – all the familiar relationships a baby has – provides the network for their attachment relationships (Forrest 1997). This research indicates that between about three and six months of age, babies will show signs that they are making preferential attachments to those who are their primary carers. Parents and experienced practitioners note that this behaviour is often directed at older children, who seem to fascinate babies, and not simply at adults. They will:-

- smile a lot more when this chosen person is nearby
- seek to gain and maintain face-to-face and eye contact
- smile, coo, babble and wriggle a lot more, thus trying to attract the attention of these people
- be pacified by their 'chosen' carer's voice, the carer giving them a toy, or looking at them
- respond differently to different carers
- show they have different expectations of different people

(adapted from Davies 1999:129). They may also show a more dramatic reaction, such as passionate crying, when their preferred primary carer picks them up (Brazelton 1992). This can be quite disconcerting to new parents, say, collecting their children from childminders or nurseries, since parents may interpret the crying as meaning quite the opposite – that their babies are rejecting them. In fact Watson's (1994) research showed that toddlers made more emotional displays (crying, etc) when collected by their mothers from a daycare setting than when being dropped off or at other transitional moments in their day. Watson argues that this finding is linked to the strength of the mother-infant attachment and that the research also suggests that neither divorce nor non-maternal daycare need impact negatively on the mother-child attachment. Practitioners need to reassure parents that these displays, while initially upsetting, can be the way in which babies tell their primary attachment figures, the most passionately loved significant people in their lives, that they are pleased to be with them.

A number of research studies have explored issues related to the age at which babies and children begin attending a childminder's or a group setting. In the USA, Howes (1991) studied 96 children (of whom 47 were girls), to explore the possible influences of the age at which the children began at a daycare setting, together with strength of maternal attachment and their interactions with peers. She found that early childcare enrolment (as babies/ before three years), when accompanied by secure attachment to the early years practitioner, resulted in the children being more socially competent at age 4 years. Other research in Sweden, France and the UK (Melhuish and Moss 1991; Jarousse et al 1991) supports this finding of early ECEC experience and later social competence. Again, because leaving babies and young children still induces feelings of guilt, young parents probably need reassurance by practitioners that they may be advantaging their children by enrolling them in ECEC, rather than the reverse, always with the proviso that attention is paid to the development of warm attachments with individual, designated key personnel (Elfer et al 2002; Smith 1999). Hennessy and Mehuish (1991) conducted a meta-analysis of findings from 12 longitudinal studies of early daycare attendance and their effects on the children at school age. While they found a number of problems with comparing the research and at times with the fact that potentially useful research data had not been gathered, they argue that where the daycare meets the needs of the child better than they could be met at home, the children benefit. Further, they argue that all children can benefit from ECEC provided it meets criteria concerned with fostering optimal social and cognitive development in children and Raikes (1996) explores how to apply attachment concepts to evaluating one's setting.

In chapter 2 and as we show later in this text, babies are intensely interested in other people from the moment of birth and, in the first few months of life, they are not only trying to form the close relationships on which they will found their understandings of human interactions, they are also beginning to develop an individual sense of self and coming to know if that individual 'self' has any agency, or power, over her/his own life. Braungart-Rieker et al (2001) suggest that babies' attachments at age 4 months are good predictors of their affect regulation and attachments at a year old. This view is further emphasised by Davies (1999) who concludes that infants whose behaviour succeeds in eliciting sensitive and positive responses from parents and carers feel encouraged and so continue such behaviour. He adds that the building blocks of a child's model of self, and of relationships, are found in the interaction patterns they experience and the ways in which they are helped to cope with challenges, during their first year.

The message for the ECEC field seems to be that babies need to form attachments to significant people, usually a parent or other relative in the first instance, and that these attachments provide them with a 'model' of

attachment so they go on to relate positively to other people, such as ECEC practitioners. Further, children who have had early positive experiences of ECEC benefit from their interactions with key adults and with other children – enrolment in ECEC can be valuable.

Special children and attachments

Parents who are informed (often, research has shown, insensitively) that their baby has been born with identifiable special needs are often left to deal with powerful emotions which may colour the attachment process and impact negatively on the family (Herbert 1994; Herbert and Carpenter 1994). According to Doyle (1997), the UK still lags behind other countries in its ability to ensure that all the professionals involved work together effectively. She argues that while the rhetoric is present in UK legislation, research, training and resource implications have been neglected.

As we have already indicated in this review, positive thinking on the part of those who care for, and work with, very young children as they develop a sense of self are crucial, especially when a child has been recognised early as having a disability. As Marchant (2001) stresses, such children and their families are living in a society which assumes a very negative stance towards disability. Wilson's (1998) work highlights the importance of recognising the disruptions to the attachment process, which can ensue when a baby is born prematurely, ill or with a disability. She states that if attachment to one or two key people in the earliest weeks of life is crucial, then the situation is potentially calamitous, because of rejection, anxiety or an inability to handle a fragile baby physically.

Menzies Lyth (1995) discusses the ways in which staff in institutions (such as nurseries, children's homes, hospitals), need to be aware that the possible lack of continuity in relationships with the numerous professionals involved can impact on children's attachments, leaving them with an inadequate model of rewarding emotional and social relationships, or self-assurance.

Difficulties in forming attachments can be particularly crucial for very young children with special emotional and social needs, when they attend a number of different settings in a week, designed 'to meet their needs' but each with different personnel, routines and regulations. This is not acceptable for children without difficulties but is common practice nationally for those who are the most vulnerable. Continuity of care, and support to parents, is fragmented through this process.

Although Bowlby's early pronouncements have been revisited and mellowed, attention to the processes of attachment and acceptance for children with special needs remains crucial. In addition to this, children with autism do not naturally seek attention and attachments, but appear aloof and indifferent. They do not appear to wish for meaningful interactions with adults or other

children, as they do not perceive their world in the same way as those other children and adults do (Trevarthen et al 1998).

There are also significant differences between maternal and paternal attachments relating to children with special needs (Carpenter 1997). Carpenter (1997: 27) identified the marginalisation of fathers when 'all help was focused on the mother and baby'. Clearly this has implications for mothers, fathers and the children.

In addition to recognising the needs of babies and parents who require particular support because their children have been born with a recognised disability, other special support can be needed when the context indicates potential disadvantage. Studying teenage mothers and their nurturance of their babies, Oyserman et al (1994) found that grandparents' support and in particular the grandfather's nurturance towards the baby, was linked to increased baby nurturance by the young mother. Other recent research studies on attachment (Fonagy et al 1991; Fonagy et al 1994; Steele et al 1995), which seem linked to this issue have shown there are strong correlations between parents' perceptions of their own early attachments and those with their babies, and Plomin and Bergeman (1991) have proposed that warmth and supportiveness in parents are related to genetic factors. However, Siegel (1999) claims that parents' narratives of their own attachments to their parents are the best indicators of the likely warmth and responsiveness of their own attachments to newborns. He argues that this should be explored during pregnancy and that those whose narratives indicate difficult early attachments could be helped to overcome these problems, in order to ensure positive attachments for their babies.

Earlier researchers (Grossman et al 1980) had found that high levels of stress in pregnant mothers is linked to high levels of foetal activity and to higher levels of irritability in babies after birth. Although having a difficult temperament in babyhood, which might also be involved, has not been found to persist through the years of childhood, it can persist if parents and carers respond aggressively or insensitively or are unable to induce calm. This then indicates that unless the mother's anxiety can be reduced, it is likely irritable or difficult babies will experience continuity of negative experiences which could reduce their chances of becoming resilient. Similarly, Hagekull et al (1993) tracked 110 ten month old infants and their mothers by videoing them in a university laboratory as part of a larger longitudinal project. Two observations of a 'strange situation' were filmed, one with mothers present, one with them absent. Both the mothers and babies had heart-rate monitors attached. Data on maternal sensitivity at 4 months had been collected by observation prior to this experiment. It was found that infants who did not reference their mothers in the 'strange situation' had experienced less sensitivity (eg physical contact, response to distress, effective comforting) and had been more irritable at 4 months. Social referencing is seen as either a

way to communicate emotion, or as a mechanism of social influence about how to act. Where no maternal guidance was given, infants tended to be less positive towards the 'stranger'. Thus Hagekull's team speculates that maternal sensitivity may depend on the irritability of the child and that lack of maternal sensitivity would in turn lead to lack of infant social referencing. Moses et al (2001) also studied social referencing in 12 and 18 month old infants. They discovered that such young children usually rely on the responses of their familiar adults to determine whether an emotional response should be linked to what they see.

Roberts (2002) reminds us that a baby's first language is body language, using what they see, feel, taste and smell as messages to them about themselves and their world. Similarly Mollie Davies (2002) explains the way in which movement and dance contribute to a very young child's self-esteem. It is important for spoken language and body language to match for babies and young children to feel truly accepted and through this to gradually accept themselves, to learn to be the sort of people their mothers recognise. As we point out in chapter 6, children who have experienced abuse or neglect during babyhood try to avoid further pain by shutting down their emotions and this can have a negative effect on their physical growth as well as on their emotional health. It also means they try to make themselves acceptable by negating feelings of pain, anger and fear. Being accepted, even when one is angry or distressed,

> 'is important for all babies and young children and the bedrock of confidence that can develop as a result is crucial for those children who have a growing awareness that they are different from others. This may be because of an impairment, or because they happen to be in a minority in some way.' (Roberts 2002: 6).

However, even sensitive parents and carers cannot be responsive to every cue from their babies but those who experience success when they try to re-establish contact with a preoccupied key adult are said to gain a stronger sense of self-efficacy and as a result feel more and more successful. Failure to support a baby's efforts to interact or to succeed in explorations may result in the development of 'learned helplessness' (Aber and Allen 1987), whereas parents and carers who are emotionally sensitive and who encourage their infants to explore and investigate (safely), do in fact end up with children who will persevere longer with tasks and who enjoy trying to achieve goals. They also exhibit greater competence socially and cognitively (Lyons-Ruth and Zeanah 1993).

The importance of familiarity and knowledge of cultural practices

Kamel and Dockrell (2000) found that mothers' interpretation of their babies' facial expressions as indicative of different emotional states varied according to the situational context, whereas the interpretations of observers who were not familiar with the babies did not, indicating how intimacy promotes shared

understandings (also see Walker-Andrews 1997). Harris (1989) claims that babies are born with the capacity to experience the basic emotions of sadness, anger and joy and that they gradually learn that other people also experience these emotions. Through growing up in a particular culture, children acquire the social practices that have been attached to different emotions and refined through dominant social constructions. By the time they are about two years old, children are learning the 'scripts' that help them to experience emotion appropriately. Davies (1999) suggests that having experienced sensitive and supportive acceptance, they also become able to cope with short periods of discomfort by using 'transitional objects' (in Western cultures these would be objects such as dummies, fabric comforters, a favourite soft toy) to regulate their own levels of distress. Practitioners need therefore to have parents relate to them well and to help them understand their child's and their family's particular patterns of behaviour and customs, which belong to the family's individual or community culture.

What can we learn from attachment research?

In research involving slightly older children, Calkins et al (1998) found that two year olds were highly influenced by their mothers' strategies for behaviour management in the areas of emotions, behaviour, and physiological regulation. This research team suggests that it is important to identify the origins of particular maternal strategies. Further, since a quarter of the participants in the studies by the Fonagy and Steele teams (see earlier section on special children and attachments) did not follow the suggested intergenerational pattern, it is important to recognise that while intergenerational attachment problems may have been in the majority among their participants, other variables must have intervened for 25 per cent of those involved who overcame this problem. Even Bowlby (1988) himself agreed that attachment research had shown up flaws in his theory. He suggested that a 'theory of developmental pathways should replace theories that involve specific phases of development' Bowlby (1988: 2). Further, Belsky et al (1996) argue that data from different attachment studies show that the ratings of attachment are not stable, they change over time and are context dependent, and that the small sample sizes used in some of the attachment research studies are cause for caution.

Attachments may also be influenced by a family's situation at a particular time. Dunn (1993) would say that we should not be surprised by this. She noted that in her research even mothers changed towards their children at different ages, observing that some seemed to be particularly 'turned on' by their children as 1-year-olds but were less affectionate, compared with other mothers, when their children became more assertive two- or three-year-olds. Meanwhile, Dunn reported, there were other mothers who were especially delighted with their newly talkative and engaging two year-olds.

However, despite the existence of critical challenges to some of the attachment research, the main messages we can take from this work are summed up in the developmental guidelines provided in the Framework *Birth to Three Matters,* which state:-

- Young babies become aware of themselves as separate from others, learning also that they have influence *upon* and are influenced *by* others.
- Babies develop an understanding and awareness of themselves, which is influenced by their family, other people and the environment.
- Young children learn they have similarities and differences that connect them to - but distinguish them from - others.
- Children show their particular characteristics, preferences and interests and demonstrate these in all they do.
- Young babies seek to be looked at, approved of and find comfort in the human face.
- Babies gain attention: positively *or* negatively.
- Young children strive for responses from others, which confirm, contribute to, or challenge their understanding of themselves.
- Children need to feel others are positive towards them, and to experience realistic expectations in order to become competent, assertive and self-assured.

(*Birth to Three Matters – Development Matters: Me, Myself and I* and *Being Acknowledged & Affirmed)*

Further messages from the research include the following.

- It is preferable to have stability in relationships with children and practitioners.
- A key worker system, with a small number of individually designated practitioners relating to particular children, as advised by Elfer et al (2002) enables responsiveness and sensitivity to individual children.

As Selleck and Griffin (1996: 156) point out on the basis of reviewing children's upbringing in other cultures,

> 'In Italy, key relationships with a significant adult are not seen as necessary to children's successful development in group day care. Group settings may be seen as attempts to counterbalance the clinging, suffocating closeness of mother and child. … Children are encouraged to respond to the environment and to small groups of adults and children rather than a key adult. '

So although the above description of the Italian model appears to imply the lack of a key worker system, it still reinforces the idea of a small, significant number of both adults and children being together so that meaningful relationships can be formed. What is warned against is the overly narrow and limiting relationship that can occur if a child is not given opportunities to be with more than one person, whether that is a parent or a practitioner. Selleck and Griffin (1996: 156) add that

> ‘a day educator must also develop a strong and complementary attachment to the infants and toddlers in her care. She will not be a substitute for mothers or fathers or grannies, but she must be able to form a special relationship which can nourish and protect, and is available on a regular and predictable basis during the day.’

So, in addition to advocating complementary attachments with practitioners, which ensure responsive and loving attention (Goldschmeid and Jackson 1994), Selleck and Griffin (1996) agree with Roberts (2002) that effective practice between birth and three will provide individual children with opportunities to develop a positive self-concept, interdependent relationships and a personal identity. In order to do this it is suggested that:-

> ‘the sort of acceptance that babies and young children need from parents and other important people is not acceptance that is dependent on their behaviour; it is acceptance without reservations and without judgements. It can be described as ‘unconditional positive regard’…Babies learn that they are acceptable by experiencing, day by day, the results of that acceptance…when an ‘important person’ smiles at the baby, and when that person comes at the baby’s call, the sense that he or she is acceptable is confirmed. This is not simply a passive process; all the time the baby is learning by experience how to win the smiles, how to bring the person. Every experience is a learning experience.’ (Roberts 2002: 5-6).

Being Acknowledged and Affirmed: developing a sense of self

Early in the second year when toddlers hide, they will often leave themselves visible to their adult ‘seekers’, thinking that because they cannot see the adult, the adult cannot see them. While they will revel in the joyfulness of the adult’s ‘seeking’, which is the kind of activity which promotes a sense of a self who is wanted and loved, they are not yet able to recognise the other’s viewpoint or the way parts of them remain unhidden. But huge changes are afoot, building on the experiences of that first year, as they progress into new phases in their development – to become *standers and explorers; movers, shakers and players; walkers, talkers and pretenders* (see chapter 1 of this text) - stimulated and rewarded by their own growing abilities.

Judy Dunn (1993) points out how one of the most striking changes during the transition from babyhood to early childhood is a child’s growing sense of self. Individual children are becoming aware of how others view them and Dunn (1993: 30) suggests ‘The development of this self-consciousness allows new possibilities; for example, the parent-child relationship can be a resource for fostering a sense of self-competence and self-worth – or its opposite.’

At the same time this growing sense of self is fostering a sense of independence (Karmiloff-Smith 1994) and being seen as a capable person by others (being ‘told’ in words and actions that one is a ‘capable self’ when

attempting to be independent) promotes self-esteem. Roberts (2002) provides many pointers to raising children's self-esteem, especially in situations where they are often frustrated at being unable to achieve tasks they set themselves. These mainly involve the child's familiar adults in being able to 'decentre' (take the child's point of view) and create a climate in which they can succeed or at least express their frustrations and be understood. Children with warm, affectionate relationships with their parents are more likely to have high self-esteem, according to Mortimer (2001), who adds that they are also more likely to be positive about others, to be better socially adjusted and to achieve academically. Clearly such findings have implications for children with emotional, social and behavioural difficulties, who will often demonstrate low self- esteem (Wall 2003).

At around 18 to 24 months of age, young children begin to be able to recognise themselves in mirrors and it is also around this time that they begin to assert their own wishes (see also chapter 5). Prior to this, at about 12 months of age, they will also have begun to point to things and to be able to follow someone else's gaze when they are pointing. This pointing activity also involves referencing by looking back at the person's face to check if they are looking at the same object and this tells us that the young child has some understanding about other people's viewpoints (Gopnik et al 1999). Even very young babies (less than six months old) have been recorded using social referencing strategies, searching their parents' faces for reassurance when something surprising and strange happens (Channel 4 *Childhood* 1992 – Konner 1991; for further information on social referencing see for example Moses et al 2001; Striano and Rochat 1999).

However, as Gopnik et al (1999) point out, one of the main tasks of very early childhood lies in understanding the difference between their own minds and those of others and because parents and carers will often try to minimise this difference, 'scaffolding' children's early learning and looking for commonality, it is in interactions with other children, often older siblings (brothers and sisters), that such understandings about self and others develop. In fact, Selwyn (2000) points out that families where the arrival of a new baby (or babies) goes most smoothly appear to be those in which an older sibling still aged under three is included when the needs of the baby are discussed and when the parents help their older children understand feelings and needs of others by explaining the new baby's needs. Once children talk they also show their understanding of other minds (Dunn 1999). For example, children under three have been observed using speech in quite different ways when speaking to younger children or babies, and to adults (Karmiloff-Smith 1994). But it seems that it is in the earlier years that the foundations of empathy and mindreading are laid, as Selwyn indicates, 'children under two seem to be especially sensitive to how people are talking and families where feelings and needs are recognised are more likely to promote pro-social behaviour' (Selwyn 2000: 38).

Later interactions between siblings are also important. Siblings may behave differently to one another in families and societies with different cultural traditions and the challenge may happen in different ways, but many parents and practitioners will have witnessed a four-year-olds' superior and withering demonstrations of know-how to an 'ignorant' two-year-old. However, such encounters can actually help the two-year-old recognise that other minds are different from their own. Interestingly, this finding does not accord with Vygotskian theory of scaffolding, since the older child is not making allowances and providing support for the younger child's learning. However, it does accord with Bronfenbrenner's view that each child needs 'a zany uncle' (a person who behaves in unexpected and therefore humorous ways, thus challenging thinking). This realisation of 'other minds' – called 'mindreading' by Judy Dunn (1999) is part of the growing understanding of being an individual. Using others' facial expressions as indicators of what is going on in their minds is part of this key task of mindreading. But recognition of other minds is extremely difficult for children with autism and children with language comprehension difficulties will struggle to interpret literal meanings, let alone extend development to consider another's point of view. Pollack et al (2000) found that recognition of emotion in faces varied among children who had been abused, with neglected children finding particular difficulty in differentiating between facial expressions of emotion. So children's interpretations of emotional states and what is in the minds of others can be impaired for a number of reasons.

A further expression of this new found identity around this time is the ability to use one's own name. Additionally most children will begin to use 'I'. 'me' and 'mine' during their second year. Between two and three years of age they will also begin to develop a gender identity and to show awareness of any effects of racism in their society. Siraj-Blatchford (2001) points out that there is only an emerging literature on racial identity, culture and agency and even that relates mainly to older children than we are considering here. This analysis is supported by Goin (1998).

Siraj-Blatchford argues that the best approach for ECEC staff is to work with all children, making them aware they all have an ethnic/racial, gendered, cultural, diverse and linguistic identity, because they would then be better equipped to accept that others are the same. Working in this way is intended to break down stereotypes. Siraj-Blatchford goes on to discuss strategies for dealing with racism or sexism and she states:

> 'A positive self-concept is necessary for healthy development and learning and includes feelings about gender, race, ability, culture and language. Positive self-esteem depends on whether children feel others accept them and see them as competent and worthwhile.' Siraj-Blatchford (2001: 104).

Some early research suggested that the fact that young black children choose white dolls indicates low self-esteem induced by racism. However, there is now disagreement in the USA as to whether experiments in which African-American preschool children chose white dolls rather than black, when given the choice. Some have argued they were indicating negative self-images (Katz 1996), others that they were simply reflecting their recognition for the more valued stimuli, rather than exhibiting lower levels of self-esteem than whites (Powell 1985; Spencer 1985).

Again, it is around the time babies become more mobile, being able to stand and to walk, that they start to socialise more with other people, making rudimentary forays into interactions with their peers. In a recent study, Belsky et al (2001) measured attentional persistence and negative emotionality when children were 15 months old and then when the children were three. The researchers measured problem behaviour, social competence and 'school (ie nursery group) readiness'. They found that children whose attentional persistence was low, (they were not able to concentrate for reasonable periods of time for the age group), and who showed high levels of negative emotions when younger also had low levels of social competence. However, having reasonable levels of concentration mediated the effects of negative emotionality and such children were better able to integrate with their peers.

It is generally during the second year that young children begin feigning crying (showing they are aware of its effect), are more likely to make caring gestures when someone else is upset or hurt, and are beginning to take part in pretend play with other children or adults. Being able to agree on what is happening in fantasy play, even for a short bout, shows the ability to take account of a play partner's thoughts. It is also possible that collaborating to develop a pretend narrative fosters the growth of such abilities (Dunn 1999). Subsequently, according to Bartsch and Wellman (1995), between two and three years old, children will often use the words 'pretend', 'want' and 'feel'. Importantly however, both Karmiloff-Smith (1994) and Perner (1999) suggest it is rare for them to use the word 'think' before they are three.

Such an observation may indicate to us the power of a child's emotional life at this stage. Linked to this, it is interesting that studies of children's narratives, said to begin to proliferate between the ages of two and three, are at their most sophisticated when concerned with emotional events, especially when the events at the centre of their narratives involved negative occurrences (Bruner 1990; Feldman 1992). In these cases their stories were sequentially and causally accurate and usually told of fear, distress and anger (see Dunn 1999). Both Bruner and Feldman have argued that we use narratives to explain the actions of others and ourselves, and that, within any given culture, narratives are used to generate a person's sense of self. The importance of narratives, the way each of us makes sense of our lives, is also stressed by Siegel (1999). Even at this young age children love listening to narratives

about themselves as babies and from these they begin to construct their own life narratives. So telling children stories about events and achievements in their own earlier lives contributes to their sense of self and sense of efficacy.

Chen and McCollum (2000) explored the perceptions of 13 Taiwanese mothers of 12 month old children on the benefits of parent-infant interaction in relation to the development of social competence and found that these were congruent with the traditional cultural ideas about interdependence. Tronick et al's (1992) research demonstrated that infants and toddlers adopt the patterns of the cultures in which they are brought up and that for some this means that the sense of self is derived from multiple relationships. Harris (1989) explains how different cultures build on what may be, usually, a universal, innate ability to recognise negative and positive emotional states but this can be impaired for different reasons. As stated above, the ability to 'mindread', for example, does not extend to autistic children and their difficulties in forming relationships and restricted imaginative play may relate to this inability (Harris 1989; Hobson 1993; Trevarthen et al 1998). Hobson stresses the way in which being able to engage in symbolic play means being able to appreciate how to convey attitudes, thoughts and knowingly confer novel (imagined) identities onto familiar objects. Thus the sense of self as agent of interactions and ideas is strengthened, but when these abilities are impaired, the sense of self too may be affected.

What must also be acknowledged is that understanding about self and others is dependent upon social **and** emotional interactions in which cognitive processes come into play. It is the holistic nature of this interweaving of all aspects of development and learning, which is now recognised. As Dunn (1999) states, cognitive and socio-emotional developments were studied as separate domains until relatively recently. Attempts at mapping children's discovery of the mind did not include investigations of the role of social experience in influencing such developments and there was little attention to individual differences in mindreading, or how these might be influenced by social relations.

In fact, it has been shown (Parkes et al 1996) that there are links between emotional development and cognition indicating that securely attached children show greater ability in *metacognition* (the ability to reflect on and piece together ideas about one's own learning). Researchers argue that mothers of children who have been securely attached in their infancy were more likely to have treated their babies as individuals with minds and that as a result, by the age of four or five years old these children are better at 'mindreading'. However, Dunn's earlier work (Dunn1987), showed that mothers of 18 month old girls are more likely than mothers of boys the same age to discuss other people's feelings with them, so there may be a gender difference in mindreading too.

Developing self assurance
Murray and Andrews (2000) suggest that children who have felt secure in their relationships are likely to develop self-confidence and assurance, and as a result they will be better equipped to cope when faced with difficulties.

Summing up the key points relating to children's development of self-assurance, confidence and independence, the Framework pack concludes:-

- Young babies enjoy the company of others, but also need to feel safe and loved when they are not the centre of adult attention.
- To develop independence babies need to feel safe and secure within healthy relationships with key people.
- Young children need support in order to explore what they can do on their own.
- To appreciate what they can do independently children need supportive relationships, through which they develop self-confidence, a belief in themselves and healthy self-esteem.

*(*Birth to Three Matters*:* Development Matters - Developing Self-Assurance*)*

Babies who will become self-assured children and adults tend also to become resilient (see chapter 1). They will be the children and adults who have factors in their lives enabling them to cope with any adverse circumstances which may beset them. The research reported in the section on resilience in chapter 1 indicates that the main factors enabling such self-assurance to develop relate to being valued by and having secure attachments to at least one significant person. Both parents and practitioners can contribute to developing a child's self-assurance. As Athey (1990:207) suggests, 'The time is right for parents, grandparents and professionals to work together in order to increase the quality of mind in young children.'

We should be concerned that some children do not become self assured, nor acquire social confidence and competence. Later in life it tends to be these children who are rated by their teachers and by their peers as troublesome and disruptive. They seek attention and emotional support in socially unacceptable ways and are unable to settle down calmly to learning in school. Their teenage and early adult lives are said to be punctuated by problems such as drug and alcohol abuse, accidents, violence, adolescent pregnancy, psychiatric disorders, family disruption and environmental risks.

By reviewing a number of studies, Clarke and Clarke (2000) claim that the basis of their difficulties often lies in their irritability (which the Clarkes link to temperament and their often chaotic lives at home), poor cognitive skills, and in their lack of emotional security or strong affectional ties to anyone. The High/Scope early childhood education programme claims to prevent numerous anti-social behaviours in later life (Berrueta-Clement et al 1984). Two of the key aspects of the High/Scope programme are the fact that parents are involved as well as the preschoolers themselves, and that the

programme aims to promote the children's (and the parents') sense of agency. One aspect of a sense of agency is the ability to regulate oneself – managing one's emotions (this does not mean repressing them – see Goleman 1996), gaining control of one's actions and having strategies for coping with heightened arousal.

Self-regulation was the main focus of a study by Kochanska et al (2001). They assessed 108 children at 14, 22, 33 and 45 months of age in 'do' (keep doing a boring/ unpleasant task) and 'don't' (don't do something enjoyable) tasks to find out how compliant the children were. They found that girls were generally more compliant than boys and when children showed eagerness to comply with their mothers' requests (committed compliance) this was found to relate to their internalisation of maternal rules.

Akande's research (1992) provides ideas for helping parents to promote children's views of themselves as valuable, responsible and capable of learning. In research on mothers' approaches to controlling young children's social interaction and expressions of autonomy, Donovan et al (2000) found that mothers who adopted either high power-assertion strategies, using negative control, and those who had earlier demonstrated low rates of intervention in children's crying, had young children whose behaviour would be more likely to escalate into defiance, compared with those who adopted more moderate approaches to both infant crying and toddler compliance. Boukydis and Lester (1998) also explored parental responses to their babies' crying when 40 weeks old (both full-term and pre-term babies were included). They found that practitioners need to know how to interpret different risk status in certain babies and how to help families respond appropriately.

As Hutchins and Sims (1999) point out, children develop self awareness and social awareness in conjunction with a sense of their own agency. When they have parents and practitioners who allow them to assert some power and control over their own lives they learn to be self-regulating and autonomous.

A Sense of Belonging

The Framework *Birth to Three Matters: A Sense of Belonging* cites the New Zealand Ministry of Education (1996: 54), who argue that

> 'The feeling of belonging … contributes to inner well-being, security and identity. Children need to know that they are accepted for who they are. They should know that what they do can make a difference and that they can explore and try out new activities.'

Here the literature review examines some of the research on very young children's relationships in their families and in ECEC settings, in order to attempt to tease out the key ingredients which assist the development of a sense of belonging.

Belonging in one's family

Clearly families at the start of the new millennium are very different from the families of twenty to thirty years ago, but as Jagger and Wright (1999: 3) point out, 'the family is neither a pan-human universal nor a stable or essential entity… Families and family relations are, like the term itself, flexible, fluid and contingent.' Throughout this review one of the main messages from the research appears to be that babies and very young children have a fundamental need to be with familiar, loving adults and older children. Therefore, at a time when families are fragmented and isolated for many different reasons, we need to explore ways of ensuring that all babies and young children feel part of a family, however that is constituted.

Some research on young children focuses on particular types of families and may, in so doing, limit its relevance. However, findings may still 'make sense' if parents and practitioners find they can identify with what appear to be authentic and useful contributions to knowledge. For example, Boyd Webb's (1984) research studied 24 children aged under four, each of whom lived with their mother and father. These children had experienced multiple carer relationships and Boyd Webb wanted to tease out what aspects of the relationships helped the children to be socially competent, confident and self-assured. Three common strands in the children's home experiences stood out. They were the parents' use of *'bugging and nudging'* (for example, asking a child to demonstrate achievements – 'Go on, show Grandad how you dance to Bob the Builder's music'); the use of *pet names* – perhaps these are an indicator of '*snuggling in'* and of intimacy; and thirdly, respect for *rituals* devised by the child (for example, s/he always likes Big Ted/ an old sock, etc in bed; we always look out of the window at the sky and sing a special song before s/he goes to bed).

So although, like Boyd Webb's research, many projects may have been carried out in families with two heterosexual parents, it is still possible in some cases to reflect on the findings by viewing evidence about the adult roles as indicative of '*mothering'/ 'fathering' / 'parenting'* rather than as specific. It is still important however, to recognise that mothers and fathers may behave differently because they live in a gendered society.

Children's relationships with their fathers were the focus of a number of studies. Examining the factors that influence the father-baby relationship during the first two months of life, Anderson (1996) discovered the powerful role of the baby's mother in either including or excluding the father's involvement in infant care. Fathers' attitudes and the amount of time they are actually able to spend with their babies are also key ingredients in the extent to which they are able to form attachments (Cox and Margand 1992). In another study by Belsky (1996), he set up a Strange Situation with father and son participants. He found that the fathers of infants who were securely attached to them had particular characteristics in common. According to

Belsky they tended to be more extrovert, agreeable, have happier marriages and more positive emotional work-home contexts than fathers of insecurely attached babies.

A meta-analysis of available studies by Fox et al (1991) indicates that attachment to one parent is indicative of attachment to the other in two-parent families. Nakamura et al (2000) found that fathers in their study scored lower than mothers on a scale concerned with fostering children's cognitive development. Grych and Clark (1999) found that fathers' interactions with their babies differed depending on whether or not the mothers worked full time. Fathers whose partners worked part-time or who were not employed outside the home were found to be more sensitive and to show more positive behaviours towards the infants. Babies from 77 families were observed at four, 12 and 13 months old by Braungart-Rieker et al's (1999) team in order to assess mother- and father-infant attachment. They found that boys from dual-earner families were likely to be strongly attached to their mothers but not to their fathers at four months, compared with babies from other family types, but these fathers were also likely to be less sensitive and to report less marital affection at this time.

In an intervention study, Cullen et al (2000) found that encouraging fathers to massage their babies for 15 minutes before bedtime for one month enhanced their relationships to the extent that the infants displayed more warmth and enjoyment during floor play interactions by the end of the study period.

Slightly older children's attachments to their mothers and to their fathers were explored to expose the key features of young children's development from a dyadic (paired) to an individual organisation of self. Suess et al (1992) found that girls' competence in specific areas, behaviour problems, and ability to resolve conflict were related to their attachment to their mothers, but this was not found to be the case for boys, although overall competence was linked to attachment to mothers for all the children. When shown cartoons and asked about the intentions of the characters, children with insecure attachment histories were more likely to attribute negative intentions than positive.

Further research (Kornharber and Marcos 2000) indicates that from as young as two years of age children are able to adjust the ways in which they communicate with mothers and fathers. Fathers were observed to produce more messages related to telling children what to do and task performance than did mothers.

Teenage fathers were found to be often confused about childcare and their problems were exacerbated by financial worries, even where they showed strong interest and involvement in their babies (Rhein et al 1997). In these conditions the fathers were likely to become disinterested and subsequently disengaged. Yet in another study (Cutrona et al 1998) longitudinal data were

collected about adolescent parenthood and where both partners were in an affectionate, intimate and supportive relationship six weeks after delivery, the fathers of their babies were more likely to remain involved. Further, when the relationship remained stable during the baby's first and second years, the infants' doctors were less likely to report injuries, or investigations of abuse and neglect. However, the team found that fathers were more likely to stay involved when the mothers' lives were free of stressful events, indicating a delicate web of interlinked sensitivities and potential stresses.

Home observations by Volling and Belsky (1992) have demonstrated how the mother-firstborn and father-firstborn attachments can have an enduring effect on the quality of (subsequent) sibling relationships. Within the family, children over two years of age are more likely to show dramatic decreases in their attachment security on the birth of a brother or sister, compared with younger firstborns (Teti et al 1996). This research team also found that the levels of stress due to other factors, such as marital disharmony or maternal psychiatric illness, were also implicated in the children's reactions.

We indicated earlier that Herbert and Carpenter (Herbert 1994; Herbert and Carpenter 1994; Carpenter 1997) have alerted the field to the ways in which fathers of children born with identifiable special needs are often excluded from the circle of concern. There are also implications for siblings, which are summarised in Carpenter (1997). Like the children described earlier whose families involved them in discussions about a new baby, the brothers and sisters of babies with special needs benefit from such involvement. They may feel isolated, guilty or resentful, despite the existence of positive benefits attached to the birth of the new baby. Other implications for these siblings include possible changes of care-givers, because parents may need extra time with the new baby, or to attend hospital appointments, for example.

Dunn's early research (1984) on siblings points to other studies where initial ambivalence towards a new baby brother or sister is common. Dunn goes on to provide evidence for the mix of positive and negative encounters siblings experience with each other during these early years – quarrelling and fighting, loving, caring for and comforting. We know from other contemporary cultures, where it is still common practice for children as young as three to be given responsibility for a younger baby, that these children, together with children we know and Dunn's research participants, are already able to adapt the way they behave and talk. For example, they use terms of endearment towards the baby that parents, grandparents and other significant adults have modelled.

Dunn's research also cites examples of the 'babies' teasing or comforting the older child, evidence of their ability to empathise. 'What is particularly notable is that some of the second-born children, as young as fourteen, fifteen or sixteen months, attempted to comfort their older siblings.' (Dunn 1984: 23).

Dunn reports that sisters and brothers fight with each other much more frequently than with other children outside the home – the incidence for boys being roughly equal to that with peers but for girls far higher with brothers and sisters. According to Dunn, one should be wary of assuming too much about rivalry and jealousy from such conflicts, and parents need not blame themselves. She states, 'Siblings don't choose to spend their early lives together – they are forced to live together. We shouldn't be surprised if in some cases they find it very difficult to get along…' (Dunn 1984: 106). Later she argues, 'It is because they *understand* their siblings so well and because they *feel* so strongly about them, that their relationship is so significant and so revealing.' (Dunn 1984: 144).

Belonging in an Early Childhood Education and Care setting

Belonging may be defined differently in different cultures and communities. There may be traditions, which have been developed over time to bind communities together, and they may mean that individuals are not as important as the whole collective. Rosenthal (2000) suggests parents and practitioners in individualistic societies will have different expectations from those in collectivistic societies and that the dominant cultural constructions of early childhood impact on the practices used to socialise babies and young children. While exploring approaches to early literacy in a cross-cultural study, David et al (2000) found that in France babies are regarded as citizens from birth, they 'belong' to a community and that parental and societal expectations – of both children and of the state – are reflected in ECEC provision and practices. Similarly, Moss (1990) reviewing policy in Sweden, found that children are regarded as the responsibility of the whole society, not the private or sole responsibility of their parents. However, Gauthier (1996), reviewing family policy, argued that the UK and USA have traditionally had laissez faire policies which have endorsed the idea that unless parents are defined as inadequate in some way, the state does not intervene in how they treat their children, but nor does it provide much support. Recently Government policies are promoting the development of ECEC services, including provision for children from birth to three years and clearly it is important that children's well-being is at the heart of these developments.

Elfer et al (2002) discuss the difficulties staff in group settings face when they attempt to achieve close relationships with babies and young children. There are issues relating to shifts, holidays, children in different age bands being afforded new and different experiences, not to mention staff changes due to promotion or family circumstances, for example. While Dahlberg et al (1999) argue that one should not create 'false closeness', they also add there should be a concept of intensity of relationships, meaning a complex network connecting not only people – the adults and other children in the setting – but also the environment itself and the shared activities. Perhaps what needs to be avoided is possessiveness rather than intimate, loving relationships which are mutually enjoyable for the adults and children involved, because babies

and young children seem to thrive in ECEC settings where they experience such relationships and where there is continuity of care giving (Rutter 1995).

Attendance at an ECEC setting also affords babies and young children opportunities to be with other young children and to make friends (Smith et al 2000). Young children's friendships may be subject to family mobility but, where family location is stable children, they do have friendships for much longer than used to be thought possible. Dunn (1993) cites a number of studies including her own which indicate that children aged only four had friendships as long standing as two years, so these friendships had begun when the children were about two years old. Further, according to Dunn, young children spend more time talking with, arguing (and making up) with their friends than they do with children who are not their friends, but they are unable to articulate what is special about their relationship. They will usually just say that they play together. Friends are clearly very important, for as Howes (1987) showed, children who made transitions in daycare with friends fared better than those who lost their friends at that time. Dunn (1993) found that children whose friends changed daycare settings with them remembered that it was the presence of those friends that made them feel happy there.

In addition, Dunn looked at the possible links between children's attachments with family members – principally their mothers – and those with their friends. She found, surprisingly, that there was no evidence of an association between children's expressions of emotion with their mothers (either positive or negative) and their interactions with their friends. However, she also found that children from families where there were frequent family arguments and outbursts of anger were unable to reason with their friends when disputes arose. Most importantly, children who enjoyed high levels of involvement with their mothers were more likely to compromise and be conciliatory with friends, to enter elaborate shared fantasy play bouts and conversations.

One could surmise that the early close relationships and the mothers' modelling helped these children learn how to get on with other children, to solve disputes without being unreasonable, and that similar interactions with and modelling by a practitioner can have the same effect. In fact, Sally Lubeck (1986) whose qualitative research detailed the events relating to children in two preschool groups, found that children in a setting where the three members of a staff team modelled positive, supportive, cooperative behaviour with each other, the children showed more of these behaviours than in a setting where staff did not behave in this way.

The findings from research examining children's adjustment to ECEC settings are mixed. Deater-Deckard et al (1996) claim that children's behavioural adjustment is more closely linked to home environment factors than the quality rating awarded their daycare setting. However, when Howes et al (1994) explored the ways in which a child's relationship with a practitioner

affected their relationship with their peers, they found that young children who felt secure with their educarer displayed complex play with peers and were gregarious. Those who were dependent on the adult were, however, withdrawn from their peers and hostile and aggressive towards them. Where practitioners encouraged and modelled socialisation, the children seemed to demonstrate greater acceptance of each other. The same research team (Howes et al 1994a) had also found that children's social competence with peers and their relationship with their educator at 4 years of age, were both related to their relationship with their first educarer. In Sweden Broberg et al (1997) found that the children's cognitive abilities at age 8 could have been predicted from the quality of the out-of-home care (in centres or with childminders) they attended. Their research involved 87 children aged between 16 and 19 months at the start of the project, whom they tracked through at least 36 months of attendance at a daycare setting and on into primary school. 'Quality' is a value-laden concept, which makes comparisons, particularly those across national or cultural boundaries, difficult to interpret. It is possible that the differences in these findings may reflect the contexts in which the studies were carried out but they may also indicate that some children need extra support from practitioners in becoming a member of the setting's community – in 'belonging ' there. Perhaps some individual practitioners and some national systems take greater pains to ensure inclusion.

Sadly, McGuire (1991) found that nursery staff often failed to give the additional attention a withdrawn child needed to help them become a member of the group, or to be engaged in play activities – since during her observations these children were found to spend more time than others apparently unoccupied.

Further research projects, which can provide pointers to children's sense of belonging in an ECEC setting, are those concerned with young children's conflicts. The findings from these observational studies suggest that such episodes help young children to learn the cognitive skill of 'standing in someone else's shoes', to think in terms of multiple attributes and to recognise the consequences of their actions (Sims et al 1997; Singer 2001). The ways in which adults manage such episodes can help children develop effective conflict resolution strategies. Sometimes, allowing children space and time, in a supportive and safe atmosphere, means they resolve their own conflicts without adult interference (Singer 2001). Children who learn to resolve conflicts successfully develop interpersonal skills, becoming more popular and interacting with their peers more effectively.

Further messages for practitioners can be found in the detailed qualitative research by Anning (1999). This research focused on parents' and educators' interpretations of children's meaning making in a group setting. While the children in her study were already three years old, Anning argues

that they could be seen to be developing a sense of self as members of a home community and of a preschool community.

> 'What was impressive was the range and fluidity of the meaning making systems they were using. It was also quite clear that their particular passions and preoccupations shaped their representations and communications at home…In the nursery…the adults were driven by a national climate of preschool settings having to provide a 'foundation for schooling'…imagine how children struggle to make sense of the continuities and discontinuities between joint involvement episodes at home and in preschool settings, we can speculate that for some children there may be some overlap …But for many, the discontinuities must be daunting.' (Anning 1999: 16-17)

Attending to external demands (such as Standards and Inspections) can be daunting for practitioners so they need reassurance that the children in their care and their families are their first priorities.

The key *Development Matters* points from the Framework for the development of A *Sense of Belonging* are as follows:-

- 'Snuggling in' gives young babies physical, psychological and emotional comfort.
- To sustain healthy emotional attachments babies need familiar, trusting, safe and secure relationships.
- Young children's developing attitudes and beliefs are shaped by the value placed on individual differences and similarities.
- The development of a strong sense of identity both individually and within a group helps children feel they belong.

Finally, as Dunn concludes,

> 'relationships change in nature as children grow up. New dimensions of intimacy, self-disclosure, and shared intimacy become apparent over the early years, reflecting children's growing social understanding. These developments bring new sources and new patterns of individual differences in close relationships as children develop.' (Dunn 1993: 114).

Initially those close relationships will be with parents and siblings, but practitioners and other children attending an ECEC setting will be drawn into the child's growing circle of significant relationships and it is through the interactions involved that a young child begins to know who they are and what they can achieve.

Summary of key messages

Research concerned with babies' and young children's sense of self, self-assurance, and sense of belonging suggests that

- all areas of learning and development are intricately intertwined, young children develop and learn holistically and their emotional and social development seems to form the bedrock of other areas
- babies seem to come into the world primed for attachment to warm, familiar carers, who will usually be mothers, fathers, grandparents, older brothers and sisters and key adults in ECEC settings
- these attachments form the basis for subsequent relationships, and for sense of self/ self-assurance - and those children who have had experience of warm attachments and positive responses become socially adept, self assured, independent and inter-dependent, higher achievers in their later ECEC and school settings
- children's competence and ability to resolve conflict in ECEC settings seems to be related to their primary attachments, especially their attachments to their mothers
- parents who express negative narratives concerning their own early relationships with their parents need support to overcome perpetuating such patterns and to form joyful, mutually loving relationships with their babies and small children.

CHAPTER 4

A Skilful Communicator

This chapter provides research information and ideas about the baby and child as *A Skilful Communicator*, the focus of the second aspect of the Framework *Birth to Three Matters*. This aspect includes:- being a sociable and effective communicator; listening and responding appropriately to the language of others; and making meaning. To become skilful communicators, babies and children need to be together with the people who are important to them, with whom they have a warm and loving relationship. Being together leads to the wider development of social relations so that children become adept at forming friendships, being able to empathise, share emotions and experiences. It is through these interactions and upon these foundations that they become competent language users. When early attempts at finding a voice are rewarded in a variety of ways, babies become more confident to extend their range of vocalisations and increase their language skills. Babies use their voices to make contact, let people know what they need and how they feel. They are also starting to learn about 'conversation', which requires the ability to listen and respond appropriately, and to learn the 'rules' of communication through making meaning with the familiar people in their lives. One of the main 'messages' of this aspect of the Framework is that, above all, those around them need to value, interpret and respond to babies' and young children's early attempts to converse.

Being together

This section of the literature review is devoted to some of the research available about babies and their ability to communicate with the significant people in their lives. As Jerome Bruner points out:

> 'Infants are, in a word, tuned to enter the world of human action. ... It is obvious that an enormous amount of the activity of the child during the first year and a half of life is extraordinarily social and communicative…Even in the opening weeks of life the infant has the capacity to imitate facial and manual gestures; they respond with distress if their mothers are masked during feeding; and, they show a sensitivity to expression in the mother by turn taking in vocalization when their level of arousal is moderate and by simultaneous expression when it is high.' (Bruner 1983: 27).

Indeed Karmiloff and Karmiloff-Smith (2001) claim, in their exciting and informative text on early language development, that during its last months in the uterus the foetus develops a growing sensitivity to the unique qualities of its mother's voice and rhythms of its native language.

For example researchers have established that babies as young as four days and even earlier can distinguish the language spoken by their mother and family from another language, although they do not discriminate between unknown languages. For example French researchers (see Karmiloff and Karmiloff-Smith 2001: 17) used a sucking technique to explore this. They found that babies suck harder when hearing French than when hearing Russian but their rate of sucking showed no difference between Russian and English.

Goldschmeid and Selleck (1996: 11) argue that 'constancy in relationships with "mothers" is necessary for babies to learn to communicate'. By mothers they mean 'a person who takes on responsibility for children's lives and for whom providing childcare is a significant part of her or his working life' (Goldschmeid and Selleck 1996: 6).

Above all, babies appear to come into the world with a drive to be near familiar people:-

> Even at a few weeks old the infant's love affair with people is shown by different reactions to persons, as opposed to interesting objects. Moving objects may be watched and reached for, but people, especially a carer, are responded to with smiles, lip movements and arm waving…Getting into relationships with people probably begins in the earliest hours of life: many newborns will imitate adult face and hand movements (Whitehead 1996: 4).

Murray and Trevarthen (1985) showed that from two months of age, around the time they also engage in social smiling, infants are sensitive to 'social contingency' (the mother's responsiveness to the infant's signals), especially to the timing of their mothers' emotional attunement in their two-way exchanges. These attuned exchanges indicate the development of *primary intersubjectivity* – the rudiments of turn taking, sensitive timing and responsiveness to the other's behaviour, especially facial expressions. Intersubjectivity is thought to be the foundation of early social interaction. Such early, playful interactions are called *protoconversations* and they gradually offer the young child opportunities for anticipating and predicting and they form the basis for social and cognitive advances that occur during the first year (Trevarthen and Aitken 2001).

However, as Goldschmeid and Selleck (1996: 11) stress:-

> Young babies are only sociable, loving and curious about each other if they have already developed trusting, secure relationships with close and protective adults. Babies who do not have opportunities to touch, gaze, coo and babble with responsive adults give up on conversation-like exchanges. There is evidence of this from the work of Goldschmeid in state institutions for groups of abandoned children in Trieste, Italy in 1954. These children had excellent physical care but no personal care. The babies who persistently failed to get attention

> from an adult became withdrawn, passive and despairing. They stopped looking for friendship in adults or with other children... Sometimes this is not recognised for what it is, but is mistaken for contentment.'

As long ago as the 1970s, research by Snow (1977), Snow and Ferguson (1977), and others was demonstrating that although babies who are three months old do not contribute much to a conversation through vocalising, they already have general 'rules' about communicating. For example, they will gaze at the familiar adult and sustain an interaction in a pattern which matches exactly that of two adults in conversation.

In their book, *The Social Baby*, Murray and Andrews (2000), the authors not only provide superb photographic evidence of babies communicating from birth, they state that babies are attracted to other people from the moment they are born. In addition, they very soon show a preference for the people who have become familiar to them. However, babies do not just want to near their family members and friends, they also want to interact with those people and share their experiences (Murray and Andrews 2000).

Further, babies become quiet when their mother or other familiar person approaches, apparently primed for interaction. By the age of three months, a baby who has begun vocalising and who gets a response (being talked to and other types of positive attention) will increase the amount of vocalisation. Snow also points out that mothers will usually simplify their speech, restricting the content, using repetition, simplifying grammar and emphasising intonation. Babies and children are able to give feedback clues which tell the adults around them when the simplified speech can be modified a little to become more like the type we would use to an experienced language user.

Bruner (1983) cites the work of Piaget in remarking that babies may spend their time doing only a small range of activities (such as banging, reaching, looking) but they are systematic in their repetitions of these activities. He adds that we should not be surprised therefore, that they are also systematic when it comes to language, as the work of Weir (1962)(on spontaneous speech in the cot) and Bowerman's (1978) on children's spontaneous errors, show.

When babies and children interact with each other, they have a different 'voice' according to Goldschmeid and Selleck (1996: 17). 'Their conversations flow to and fro through complex and personal activity. Children communicate firstly through intense gazing, vigorous sucking and exploratory touching and vocalisations.' They cite the research observations of Whaley and Rubenstein (1994), who noted that toddlers develop rituals, using objects as props, developing intimacy and communicating non-verbally. In one relationship two children would use their feeding bottles in a ritual that

involved them in alternately drinking and then placing the bottles on their feet. This ritual of imitating with similar objects not only promoted their friendship, it was a way of excluding other toddlers. As Rouse Selleck (1995: cited in the Framework '*Birth to Three Matters – Finding a Voice'*) assert: 'Although most infants do not learn to talk until their second year, their voices are there for us to hear from birth.'

The first three years contribute substantially to children being highly proficient in language by the time they are six. Although language is learnt on several different levels at the same time (Karmiloff and Karmiloff-Smith 2001) – they do not simply learn vocabulary then move on to grammar, etc, - they must get to grips with the sounds of language (phonology); words (vocabulary); the way words are ordered (grammar); the way sentences are put together to mean something (discourse); as well as *how* to use language (Tabors 1997). As Whitehead (2002) stresses, a child's first word is based on experience of listening, observing and experimenting with sounds and making highly selective imitiations of familiar people.

Trevarthen (2000**)** analysed the musicality of rhyming games and he found that they follow the same patterns (such as the lengths of utterances by the adult) before the infant makes a contribution, as in relaxed, mutually enjoyable baby-adult interactions. It seems that no other animals engage in games such as peekaboo, ride a cock-horse, and other interactions that depend on rhyming and/ or repetition in the same way (Bruner 1983), because all depend on the use and exchange of language, or language as an 'anticipatory device' (eg. Round and round the garden).

It is interesting that a particular way of talking to babies is not a taught skill but is a culturally learned behaviour and one that, even in this technological society, continues to dominate early interactions (Brice Heath 1983; Schieffelin and Ochs 1986). The most self-conscious parent is driven by the very appearance and nature of babies to converse and communicate in ways that have been used in families for generations (Gopnik et al 1999). Bruner's suggestion, that mothers and carers together create patterns of interaction, co-constructing their own 'little worlds' (Bruner 1986), is a reminder that even the way we think (cognition) is 'encultured' (Hilton 1996), and that babies learn how to behave in a particular social setting in collusion with the adults and siblings around them. The world of the family is the first cultural contact a baby encounters and the family members and carers who surround a babies, help them to understand and develop the individual roles each needs to play to become part of the drama of family life (Bruner 1983; 1986; Dunn 1988; Gopnik et al 2001).

The Framework *Birth to Three Matters* sums up the key development points for the component *Being Together* as follows:-

- Young babies are sociable from birth, using a variety of ways to gain attention.
- Babies make social contact according to their physical possibilities.
- Young children form friendships and can be caring towards each other.
- Children learn social skills and enjoy being and talking with adults and other children.

The implications of the research findings which lead to the above statements about babies and young children as skilful communicators and the importance of being together are primarily that they need relaxed, playful and loving conversations right from birth. Additionally, parents need reassurance that talking with their babies will foster their language development so that by the time they are in their third year they will be expert at taking turns and social interactions which include talk. From as early as possible, it is important to observe, note and discuss with parents any apparent constraints on a child's ability to develop speech due to impairments in the physical or nervous system, so that help can be sought.

Some of the other key messages for practice are that babies need and/ or seem to enjoy:-

- responsive and encouraging interactions
- turn-taking patterns of interaction
- motherese, rhyming games, singing and word play
- not too much background noise (eg. from television).

Finding a voice

The early sounds that babies make are often thought to be merely a mimic of the constantly repeated sounds that adults make to them. Imitation, though, is a highly sophisticated skill and certainly Vygotsky maintained that it is more than a simple mechanical activity, as we pointed out in chapter 2. He argued that 'to imitate, it is necessary to possess the means of stepping from something one knows to something new' (Vygotsky 1986: 187). But as Meltzoff (1988) claims that this ability to imitate, demonstrated in his protruding tongue experiments with babies who respond similarly, can even be seen in newborns, we can assume that imitation forms one aspect of language acquisition. It is not, however, the whole story, because babies and young children do not simply mimic what they hear. The actually create language, and practitioners and parents will be familiar with very clever instances, such as the rule-bound addition of '-ed' to form a past participle, instead of the form for an irregular verb – for example, 'I goed' instead of 'I went'. Chomsky's (1965) contribution to this debate, with the idea that infants are born 'prewired' for language was essential (see chapter 2). But Bruner and other researchers have argued that language is embedded in the social and emotional interactions of babies' lives and that the laws governing their

acquistion of language are the same as those governing other aspects of learning.

So babies are born into families, communities and cultures as attentive, curious learners and their brains are already fine-tuned to attend to sounds around them and process them as part of their developing understanding of the worlds in which they find themselves. Because traditionally most carers of young babies have been mothers, the nature of the cooing and babbling that goes on between adult and child has been called 'motherese'. Cooing usually starts at around the three month stage (Karmiloff-Smith 1994) and the response of the adult (in England this is usually the mother) can act as a 'reward' encouraging these early attempts at sound making and interaction. Only a few months later babbling - repeating the same sound over and over as practice - begins to proliferate in babies' behaviour, often when they are alone. All babies babble, even those with severe hearing losses, and even when they are getting no reinforcement other than the sound of their own efforts.

In an early study by the Newsons of children and toys, mothers were described as their babies' first toys, their first playthings, as mothers interact with their children in playful spoken and physical ways (Newson and Newson 1979). When both playing and offering spoken interchanges during daily routines, nappy changes, washing, etc, Stern says that mothers intuitively treat their babies 'as the people they are about to become by working in their zone of proximal development' (Stern 1985:43). The study by Gordon Wells in Bristol described the language between children and their mothers in home contexts as being crucial to the child's construction of their 'internal model of the world' (Wells 1987: 35). He claims that babies have an 'inherent sociability' that is essential for language development; that is, they show an interest in faces and human sounds from the outset and mothers, or regular care-givers, are able to tune into this interest and join with babies in what seems to be 'conversation'. Gopnik and her colleagues describe these wordless conversation involving cooing and motherese as responses to the baby 'flirting', almost as if the adult and child are engaged in an 'intricate dance' (Gopnik et al 1999). Indeed the intimacy of these conversations is almost irresistible to most adults who invariably warm to babies' responses to their attentions. The success of such interactions and interchanges depends on the sensitivity of the adult to the tunes and rhythms of the baby as they begin to laugh and 'talk' in turn.

Kuhl et al (1992) explain that one can observe an awareness of patterns of phonetic perception in newborn infants, which are similar, regardless of the linguistic context into which they are born. They can pick out differences between the phonetic units of many different languages, including languages they have never heard. This shows that there are innate factors which strongly influence the perception of human speech (Kuhl et al 1992).

These researchers go on to discuss the fact that adults are limited in the sounds they are able to perceive, whereas babies are open and show a perception to speech sounds that is universal. Kuhl et al's (1992) research indicated that by six months of age, well before they acquire language and can understand word meanings, babies' perception of the sounds used in the languages they hear around them have influenced what they are sensitive to/perceive. They tested 32 American and 32 Swedish babies and found a 'magnet effect' to home language (just as the French babies were more excited on hearing French than either Russian or English in example cited earlier). The researchers interpret this as meaning that the speech babies hear in their first six months forms a basis for learning language, words and their meanings and that the ability to perceive (as important) and to mimic sounds in babble closes down to encompass only familiar speech patterns and sounds. It is also the case that by 12 months old, babies babble only in the language sounds they have been hearing around them. Kuhl et al (1992) point out that this evidence also means that there seem to be phonetic prototypes (models of language and how it sounds, even before language is understood or spoken) that are 'fundamental perceptual-cognitive building blocks rather than by-products of language acquisition' (Kuhl et al 1992: 608). This highlights the links between language experience and cognitive development. It also alerts us to the fact that being spoken to, sung to and hearing language patterns clearly, without background interference such as television to interfere with hearing the sounds, is very important right from birth.

In a study researching the effects of overcrowded homes (Evans et al 1999) found parents living in such conditions are less responsive than those not living in crowded conditions but having the same socio-economic status. In crowded homes parents would use less complex language to their children. The researchers suggest this finding may provide some explanation for the delays in cognition found among children from overcrowded homes.

Markus et al (2000) carried out a longitudinal study of 21 babies and their parents. They found that language at 18 months was related to differences in earlier infant-care-giver joint attention episodes – the frequency, quality, responsiveness and duration of such episodes. They also report a link between this finding at 18 months and the children's scores on both the MacArthur Communicative Development Inventories and Bayley Scales of Infant Development at 21 and 24 months of age. In other words, the more babies experience shared talk and activity, the more articulate they are as young talkers.

In another project, with babies aged between two and six months, Kokkinaki and Kugiumutzakis (2000) explored the interactions of 15 babies in Crete with their mothers and with their fathers. They found no differences in the infants'

vocal imitations of either parent in terms of frequency, pauses, total duration of the interactions, but there were differences in the nature of some of the sounds imitated. In interactions with their fathers, both girls and boys of around two years old tend to use more directives, whereas with their mothers they use more expressions about their reactions to objects and events (Marcos 1995), indicating the ways in which, by the age of two, children will use language differently with different people and to achieve various effects.

Marian Whitehead (1999) explains how first words are often only meaningful to those familiar with the particular child's life and likes or dislikes, and within the contexts in which they are used. *Alone in the car with Coralie, then 12 months, her grandmother could not understand her repeated utterances of 'Medic, medic' until Coralie pointed to the car's cassette player and, with much joint laughter, 'Silly Nana' turned on appropriate music.* Whitehead's (1996: 12) explanations continue with a helpful outline of the 'golden age of grammar' and how children between two and four years will 'attempt to tidy up irregular plurals', regularise irregular past tenses, and create new words. Further, she points out that

> 'By the age of four the physical maturity of the nervous system and the finer muscle control over the mouth, throat and tongue, and even the presence of teeth, make the young child's pronunciation of languages very much closer to the adult forms and easier to understand.' Whitehead (1996: 13).

Further research, which once again draws attention to the holistic and interwoven nature of early development and learning, by Hirose and Barnard (1997), provides evidence of a link between baby boys' cognitive development (measured on the Bayley MDI scale) and the amount of joint verbal interactions they experienced with their mothers. This finding was part of a study examining the potential differences between depressed and non-depressed mothers and their babies. The group of depressed mothers talked more with girls than with boy babies, whereas in the control group there were no such differences. Murray et al (1996) also found relationships between the quality of maternal communication with their babies in the first 18 months. Depressed mothers were less focused on their babies' experience and less likely to encourage or even acknowledge the child's agency (growing personhood and attempts to be independent, develop a self-concept – see chapters 3 and 6) than non-depressed mothers. Again, the quality of the mother's interactions was found to impact on cognitive development. Work by Molfese et al (1996) found associations between perinatal risk (see chapter 1 section on poverty) and language development, which have implications for the use of materials for testing very young children's progress. They argue that professionals should check scores on a variety of individual sections of assessment scales rather than the final summed predictors only. What is particularly important about this issue is the fact that in general boys' language development can be slower than that of girls (Hutt 1972). This is

said to relate to the relative immaturity of the male central nervous system at birth and it has consequences for both girls and boys. Firstly, boys may be assessed as being less able, when in fact they may be concentrating on other modes of exploration and discovery; it may also mean that adults provide girls with explanations for events and phenomena, instead of encouraging them to explore first hand through play. Of course, there will be exceptions, boys whose language develops rapidly and girls who are interested in other forms of exploration and it may depend on the extent to which a society expects such differences.

The component of the Framework headed *Finding a Voice* provides the following key developmental guidelines:-

- Young babies communicate in a variety of ways including crying, gurgling, babbling and squealing.
- Babies enjoy experimenting, exploring and using sounds and words to represent objects around them.
- Young children use single word and two word utterances to convey simple and more complex messages.
- Children use language as a powerful means of widening contacts, sharing feelings, experiences and thoughts.

Bilingualism

According to Siraj-Blatchford and Clarke's (2000: 30) review of research on bilingualism, there are many advantages to being exposed to more than one language from birth. These include:- 'self-esteem, positive identity and attitudes towards language learning, cognitive flexibility, increased problem-solving and a greater metalinguistic awareness.' Further, these researchers tell us that where children are 'sequentially' bilingual (learn their second language later, say at a nursery) it is important they have opportunities to carry on developing their home language because it is the strength of this that provides the basis for the additional language.

In her highly informative chapter on *Young bilinguals*, Whitehead (1996) synthesises research findings with professional and personal experience to provide information about bilingualism with pointers for practice. She states that language mixing in the early years is not an indicator of 'muddle and inadequacy' but of children making choices about how to express themselves most fluently. She continues: 'It is absolutely essential that early years carers and educators respect the languages of the young children for whom they are responsible. This must go deeper than vague goodwill or tolerance.' (Whitehead 1996: 21)

It is also important for babies and children to feel their home languages are valued and reflected in their ECEC settings, and that their ties with family members are promoted. Linda Thompson (1999) found that none of the bilingual children involved in her study in the North East of England, were

using Mirpuri-Panjabi, their first language, at nursery by the time they had completed their first term. This is a pity because we know that young children (and many adults) think in their first language and they need to use this in the early years as they explore and learn about the people and world around them most effectively. Clarke (1999) and Parke and Drury (2001) emphasise the need for nurseries to provide some language teaching (that is, to plan some interactions with young bilingual children and intervene in play to effect these) rather than simply relying on the ad hoc interactions the children may have in the language which is additional for them.

Signing as first language

Babies born with a severe hearing loss will use the part of their brain used for language in hearing babies and adults to extend the part generally used for vision (Karmiloff-Smith 1994). Similarly, a congenitally blind baby will devote a greater part of the brain to touch, the part for sight being reduced. In this way each of them develops a more sophisticated ability in the senses which are strong. Karmiloff-Smith (1994) adds that in both cases it is language that is being processed, one through sensory input through the ears, the other through the eyes. She points out that this is evidence of the brain's plasticity.

At around 12 months, when hearing babies' babble begins to sound like sentences, deaf babies will stop babbling. In homes where parents and carers sign, they do so in a signing type of 'motherese', making more exaggerated actions for the baby to decifer and learn. Deaf children whose parents use signing as their first language at home go through all the same stages as hearing children using spoken language. In this way, 'deaf children acquire their native language as naturally as any hearing child learns to speak. Likewise, hearing children of one deaf parent and one hearing parent grow up bilingual, in much the same way and with the same ease as children learning two native spoken languages' (Karmiloff and Karmiloff-Smith[2] 2001: 183). Further, research has shown how a child learning sign language begins to move from single signs to combinations at about the same time hearing children begin to use combinations of words (Barrett 1999).

Although a controversial view, Hornby et al (1997) argue that subsequent development should include exposure to sign language. The importance of this to developing the **language**, rather than speech, of a severely or profoundly deaf child has been established in the last three decades. These researchers suggest that failure to introduce sign as part of a total communication approach can compromise the future ability of a child with a hearing impairment to understand the deeper meaning of language, to read and to write competently.

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Coupe and Goldbart (1988) and Karmiloff and Karmiloff-Smith (2001) provide useful accounts of other types of young children's language delays, which families may encounter.

What we must recognise is the amazing potential of young children to overcome sensory impairments and, with appropriate scaffolding by parents, grandparents and practitioners, to make sense of their worlds.

Sean was still only two when he recounted to his grandfather that he had been making cakes with his grandmother. The detail of his account indicated not only his ability to remember the sequence and process of the baking, but to enjoy a joke by signing that they had used flour not flower.

Listening and Responding

If, as Britton (1970) claimed, language learning begins with listening, then children who are surrounded by talk and engaged in talk interchanges are in an ideal position to develop as language users. The utterances they make however may not necessarily be matched in time and context to what has been heard. Indeed, as children develop and overhear language used in different contexts they are storing words to fit with experiences and to use in their own time. Children are most likely to learn words when 'they are not pressed, or otherwise expected to reply, as in a conversation' (Bloom et al 1996:3171). Difficulties arise when children are directed to answer questions or respond at a particular time when often the making and shaping of a response then restricts the language used. Vygotsky (1978) argued that development and instruction have different 'rhythms', although they may be closely connected. And from their research, Bloom and colleagues discovered that the 'language a child brings to a conversation is language already learned from what has been heard and overheard in a multitude of actions and interactions that have come before' (Bloom et al 1996:3171). The implication of these findings for adults is that they need to be good listeners too –

> 'Whether it involves children, babies or adults, interpersonal communication is a two way process…Listening to children shows our respect for them and builds their self esteem.' Petrie (1997: 25).

In Ruth Weir's seminal study of 'crib talk', she gathered evidence of sound play in children's pre-sleep monologues (Weir 1962). While in Meek's work, replicating this with her students, she discovered that very young children were experimenting with intonation in such pre-sleep talk, when 'variations of tone, pitch and stress were greatly exaggerated as they practised and repeated segments of language ... pushing the tonal range ever farther as they did so' (Meek 1985:45). Of course such monologues can only occur if language is first modelled and heard, and then gathered and stored, to be played with and rehearsed in safe spaces. Fenton and Martello's close examination of bath time talk offers similar exploratory opportunities when, as

well as functional bath time business talk occurs, so too does play, playful interchange, teasing and joking between siblings and/or adults (Fenton and Martello 1996).

Stern maintained that by the time that children reach the age of about 9 months the beginning of jokes and teasing occurs and from 15 months onwards play and language become possible (Stern 1985; see also Dunn 1988). Children have begun by this age to understand some of the social interactions that are occurring around them and, as they become 'wordsmiths' (Meek 1985), so then do they begin also to take pleasure in nonsense, using and subverting sounds to make fun, upend convention and provide humour for themselves and willing adult audiences and participants (Grainger and Goouch 1999). In discussion of Michael Rosen's work with children and poetry, Meek voices Rosen's claim that 'children, discovering language and playing with it, meet its physical nature before its sense' (Meek 2000: 203). Certainly the rhythm and rhyme that very young children delight it would be testimony to this and nursery rhymes, skipping rhymes and playground songs and games are still very much in evidence, and often consistent in content over generations. (Opie and Opie 1959; Grugeon 1999).

When cousins Richard (4) and Ceris (5) were urged by their beloved grandmother to put on some 'woollies' against the cold, their delight in this newfound and enjoyable sounding word (their parents called them sweaters and cardigans) was displayed in a joint romp with much laughter and falling about, accompanied by repetitions of 'Woolly, woolly, woolly'. Davies (2002) writes of similar examples of toddlers using dance-like movements accompanying the relishing and rhythms of newfound words.

The rich range of sounds, language patterns, dramas and tunes of family life form the fodder on which the curiosities of babies and young children feed as they begin their language journeys, since language acquisition requires a safe and familiar 'space' of words, conversations, rhymes and songs.

The key developmental notes included in the Framework *Birth to Three Matters* for *Listening and Responding* are:-

- Long before young babies can communicate verbally, they listen to, distinguish and respond to intonations in adults' voices.
- In a familiar context, with a key person, babies can understand and respond to the different things said to them.
- Young children are able to respond to simple requests and grasp meaning from context.
- Children learn new words very rapidly and are able to use them in talking about matters which interest them.

So parents and practitioners need time to listen to and enjoy the sounds and language of babies and toddlers when they are secure and comfortable,

perhaps in their cots/ beds, or playing in a familiar setting. Throughout these early years, adults need to engage in rhythmic songs, dances and finger plays, and share picture books, especially those with repetitive, lyrical words and to provide for meaningful fantasy play (Martin and Dombey 2002). They also need to show they too relish particular words and phrases, sometimes using hand and arm movements, as well as facial expressions and expressive intonation, to help children understand meanings.

> 'Children are enthusiastic to struggle to make meaning of adults' communications and they need to encounter adults who are equally enthusiastic to make meaning of their communication.' Elfer et al (2002 draft version: 15).

Making Meaning

> 'Social realities are not bricks that we trip over or bruise ourselves on when we kick at them, but the meanings that we achieve by the sharing of human cognitions.' (Bruner 1986: 122).

The close physical and emotional bond that exists between mother and child in the earliest days of a baby's life enable her often to interpret the nature of the baby's cry, its purpose and need (see chapter 3). As the relationship develops and feeding and sleeping routines are negotiated and patterned, each learns something about the roles and rituals involved in family life and the baby is initiated into family culture (Bruner 1986). Indeed, from birth, Stern tells us that babies often occupy a state called 'alert inactivity' when they are quiet but taking in events around them (Stern 1985:39). The first recorded smile of a baby is always an event of celebration and joy and although it is claimed that the first social smiling emerges by 2 months of age (Rochat et al 1999), smiles and open-mouthed responses have been anecdotally recorded before that age. However, the smile is a signpost, at whatever age, that the baby is now able to engage in a new way as 'when infants start to smile in response to social stimulation, there is an apparent change in the way they relate to the world' and the nature of the adult response becomes sensitive to the appearance of smiles, as 'on the basis of the expression of reciprocal pleasure, interactions are fine-tuned' (Rochat et al 1999: 950). Thus, smiling seems to signal the beginning of identifiable and intentional meaning making. The second physical development that appears to change the position of the baby from being a recipient or second partner in meaning making into an active constructor and communicator of meaning is gesture. Reaching towards faces or moving objects occurs in the early months before a baby can position her/himself by 'crawling or cruising', in order to explore or capture objects or people, or discover alternative perspectives (Stern 1985). In fact it is possible to claim from the work of Stern and others that pointing may originate from reaching and so a communicative gesture is created.

The development of language, a symbolic method of referring and the way in which we are distinct from other animals, is a milestone in life, as each child

learns how 'to mean' within the family context (Bruner 1986) and the process of 'enculturation' really begins. Given opportunities, children under three will also use other ways of expressing themselves through movement and dance, singing and other expressive arts (Davies 2002; Duffy 1998; Edwards et al 1998; and see chapter 5). But it is mainly through language that a young child is enabled to begin to construct the story, or narrative, of her/his own life (Stern 1985) and such narratives, constructions and reconstructions help children to develop their sense of self, their sense of the social worlds around them, and their place within these worlds (Bruner 1986). As well as this, we learn how to 'behave linguistically' (Halliday 1978) from the auditory processing that occurs before birth and continues through life.

Thus, learning how to mean and to make meaning draws on this specialised knowledge, developed in the womb and progressing as the child 'processes the sounds, rhythms and basic building blocks of the words and grammar of his mother tongue' (Karmiloff and Karmiloff-Smith 2001: vii). In this respect Karmiloff and Karmiloff-Smith stress the difference between speech and language. Babies are actively processing sounds they hear a long time before they understand words or grammar. They are becoming sensitive to key aspects of the language/s they hear around them. As Karmiloff and Karmiloff-Smith (2001) explain, research has shown that the capacity for speech perception of a foetus, newborn, or very young infant is impressive. But we should not confuse speech perception with language. Sometimes speech discrimination capacities in babies have led theorists to conclude that humans are born with 'language'. However, there is much more to language learning than the ability to appropriately segment a stream of speech.

Traditionally, from the work of Bruner (1986) and Wells (1986) and others, we have come to see parents, carers or adults as leaders and scaffolders of language use and conversation. However the research of Bloom and colleagues, when observing and recording children from nine months onwards, indicates that children are often the initiators, leaders and directors of talk events and conversations, determining and shaping the content, length and nature of the talk. They say that 'both child and mother contributed to the architecture of the early conversations between them, *but* in fact it was the children who were "in charge"'. (Bloom et al 1996:3171; our italics). Those of us who have either lived or worked with babies and young children would support this view from experience of being led into conversations, or indeed corners, by young developing conversationalists, often in public spaces! And, as opportunities for satisfying curiosity arise, the questions of young children, as developing philosophers, are often unanswerable, for example 'Where were you when the sun was built?' (Coles 1996). The child as 'director' of play or conversation is only possible if a sensitive relationship is evident between the child and adult (Garvey 1984). Singer claims that the child learns to 'read' her/his mother's face and that equally the mother, as the more experienced other, attributes certain meanings to the infant's diffuse

movements. She mirrors and imitates her child, interpreting her child's movements as communication cues that suggest some joint course of action (Singer 2001). This reciprocity, or mirrored language, actions, gestures or expressions, develops ably into shared understandings as games, play, teasing and word play become part of daily interaction.

Play of course soon becomes the contextual space where meaning is made and negotiated as children develop ways of interacting with toys, space and 'others' to construct and reconstruct worlds. As children attempt to make sense of their lives through play, stories are told, narratives are constructed (see chapter 3). Rosen claims that 'we can locate narrative in human actions and the events which surround them and in our capacity to perceive the world as consisting of actions and events sequentially ordered' (Rosen 1988: 13) and as children recreate the roles of those around them, such narratives are constructed in often the simplest forms, using basic resources and barely indicative language and gesture. Meek offers the view that 'in their own versions of stories children explore intellectually the nature of their own situation – childhood ...and as they learn to become both the teller and the told, they are also learning to dialogue with their futures' (Meek 1998: 118). These lessons are best learned from the stories heard, shared, discussed and loved in the company of parents, adults and others who are prepared to suspend reality and join with children in risky journeys of the imagination, to land (always safely), like Max in Sendak's classic tale, *Where the Wild Things Are*, back home, where his supper is waiting and still hot!

It is also important to be aware that during play children 'can say all they know in any way they like' (Meek 1985: 49) and often this means that the boundaries of convention and appropriateness are often challenged and extended, in terms of both language and physical behaviour. The boundaries in play contexts are, by the very nature of play, broad and fluid, although rules may exist, linguistic or physical. They are defined and negotiated by the players, and are often renegotiated during the drama of play. The very early communications between adults and babies that often include turn taking and the beginnings of conversation may be important in defining appropriateness and, later, the development of 'early morality' as very often 'as a result of face-to-face turn-taking behaviour with care-givers, infants learn rules for reciprocity, for give and take, together with the strong motive for using these rules: "together" is so pleasurable' (Singer 2001: 4), (see also Bråten 1996; De Haan and Singer 2001; Singer 1998). Singer maintains that such behaviour is 'based on a strong motivation to share and to connect, and to construct shared rules' (Singer 2001: 4).

It is important to remember, however, as we discuss in chapter 5, that this kind of involvement in joint play, which requires sharing imagination and communicating freely, is extremely limited by the cognitive processes of children with autism (Hobson 1993; Trevarthen et al 1998).

The role of siblings in supporting babies and young children in developing and shaping meaning is significant (Dunn 1984; 1993). In her research (although with older children, still important in this context), Gregory describes the potential for 'synergy' between siblings, as they play together with younger children, imitating, repeating, echoing, listening, challenging, etc. But older children are also learning, through 'practising consciously what they know and through translating official meanings into personal sense and vice versa for the younger child' (Gregory 2001:313). The relationships here are described as generally equal and the mutuality of the learning opportunities is celebrated. This 'personal sense' develops in families, communities and cultures and it is through developing such knowledge and knowledge of language, from exposure to the cues given by more knowledgeable others and the 'models' they offer, that young children learn how 'to mean', how to make sense of what goes on around them in their home 'world' (Bruner 1986).

Making meaning and print literacy with under threes

During the years before they are five or six, children in England are gathering and making sense of information about the literacy-dependent society in which they live (David et al 2000). Campbell (1999) provides a powerful, in-depth account of his grandaughter Alice's very early experiences with print literacy. Alice's mutual enjoyment of books with her parents and grandparents displays a uniqueness about the path a child takes to becoming an effective language user and sharer in literate aspects of everyday life. During these years the most important aspects of engaging young children in activities involving literacy need to be aimed at enabling them to acquire the 'big picture', to understand how literacy works, how books work, and so on, and not to put them into meaningless situations where they are expected to decode symbols, other than their own mark making when they wish to convey messages (David et al 2000) (and see chapter 5). As Macrory (2001) argues, practitioners need to understand about individual variation in language acquisition and not simply the generalisations from large-scale research. By observing young children at play, practitioners can listen and note individual differences. Further, Macrory emphasises that young children need to play rather than to be made to engage in too great or too early a focus on formal literacy activity, adding that formal literacy instruction may be to the detriment of their development of spoken language. Apart from wasting the children's time if they do not understand what is going on, the language adults use to discuss literacy is sometimes beyond the experience of such young children and can simply leave them feeling inadequate. Adults will frequently focus on their own questions and meanings rather than recognising the sense in a child's response. *This sense in responding is well illustrated by Coralie, aged 2, looking at a book with her mother. Near the picture of an apple a large 'a' had been printed. She asked about the 'a' and so her mother tried to explain. As she ended the explanation Coralie's mother asked, 'So if apple begins with*

'a' (sounded), what does orange begin with?' To which Coralie replied 'Peeling.' A brilliant, logical answer to a 'question too far'.

Programmes devised by researchers such as Wade and Moore (1993; 1996; 2000) and Hannon et al (1991) focus on the loving and sharing of books as sources of inspiration and enjoyment from very early in life. Their studies have highlighted the crucial role of the adults – parents and carers – in developing children's abilities **coincidentally** while enjoying books together. Wade and Moore followed up the participants in their Bookstart programme, in which parents were supplied with and encouraged to enjoy books with their very young children. They found that the children involved in the project had scores in both Baseline Assessments and Key Stage 1 assessments which were superior to those of their matched controls who had not been enrolled in the Bookstart scheme. The children outperformed their peers in not only English but also in Mathematics and Science. Wade and Moore suggest that sharing books at home in the early years may contribute to children's ability to attend and concentrate. The evaluation of the PEEP (Peers Early Education Partnership) programme, another project which encourages parents to share books with their children from a very early age, is already showing differences in the reading abilities of the children at school, following their own and their parents' involvement in PEEP.(Evangelou and Sylva 2002).

Nowadays young children 'make sense' of their print dependent society through meaning making involving a range of media (Westbrook 1999). *Sam (one of premature twin boys aged 15 months) was enthralled to be dressed in his older brother's 'hand-me-down' Postman Pat pyjamas instead of a baby's sleep suit. For the next few days he repeatedly brought Postman Pat books from among their collection to his mother, to delight in and share the pictures and have her tell the stories (abridged versions of the text where the print proved too long), and he wanted to watch their Postman Pat video.*

Summary of key 'messages'

Human beings communicate in numerous ways. Language is said to form only a small percentage of interaction. Children are keen observers of all forms of communication, both in order to make sense of what is going on and to be able to participate. Practitioners need to reflect on their observations of the children's communications and their own ability to make these possible for all children, and particularly those who might be silenced because they are not being encouraged to use their first language or because they have a hearing loss.

In the *Birth to Three Matters* pack, the card of the Framework Component *Making Meaning* provides the following essential points about how babies and children strive to convey and interpret meanings as skilful communicators.

- From the very beginning of life, young babies convey messages about what they want and need, as well as how they feel.

- Babies learn that their voice and actions have effects on others and they strive to share meanings.
- Young children use actions and words to make and justify choices and influence the behaviour and responses of others.
- As vocabulary increases, children make sense of the world through bargaining, negotiating, questioning, describing and labelling.

Thus, it is during these first three years that young children begin to understand that language is not just about being able to use words but how and when to use them, because they have also come to know a lot about the culture in which their family life is embedded and in which each of them lives. According to Bruner (1983) young children understand culturally appropriate requests, invitations, and linguistic forms – learning how to get things done and to be accepted in that particular culture.

For example, Eliot (just 2 years old) was able to respond to his grandfather's directive not to kill a small spider with 'I was only going to give it a cuddle', not only providing his grandfather with an acceptable response, but attempting to ingratiate himself too.

Similarly, at just three, Ché and Cymion, who live in Australia, already understood how to reason and negotiate in conversation, they also show, in this sequence, incredible insight and mindreading abilities, because their mother does not like cats:-

Ché: *you like cats?*
Mum: *sometimes…*
Cymion: *sometimes you not like cats?*
Mum: *well, we couldn't have a cat here because of the road, could we?*
Cymion: *cat die, cat get run over, cars go very fast … cats… Cats no know, cats, um cars go very, very very fast. Cats die*
Ché: *mummy, mummy get long rope um um tie cat up…. Can't can't go road.*
Mum: *well yes, but cats like to walk around, it's not fair to tie him up, is it?*
Ché: *just tie a long rope cat can walk long way.*
Cymion: *close gate… cat cat no go through gate cat cat safe.*
Mum: *yes, but what about the pool? What if it fell in the pool and can't swim?*
Cymion: *me jump in, cat go down and down and down water, me get cat, cat alright. Daddy get me, me alright. Me go down and down and down me alright*
Ché: *Cymi alright? Daddy get Cymi?*
Mum: *yes, Cymi was fine, he was safe. But what about the cat? Cats can't swim…*
Ché: *me get arm bands for cat, cat armbands.*

Mum: *well yes, but I don't think cats wear arm bands…*
Cymion: *dogs can swim?*
Mum: *yes, I think dogs can swim…*
Ché: *you like dogs?*

The part of babies' brains engaged in forming connections in response to sounds (the auditory cortex) is more active than it will be at any other time throughout life (Karmiloff and Karmiloff-Smith 2001). By the end of that first year they are able to make gestures indicating their needs, take turns in conversations, recognise and use the language sounds they hear around them and associate facial expressions with talk (Makin et al 1995). Dunn (1988) argues that this links with children's grasp, between 12 and 36 months, of what is and is not culturally acceptable behaviour and speech but as the research reported in this chapter shows, experiences of hearing language and being involved in interactions as if one is a person who understands and can respond, during the first year of life, is the crucial foundation of the process.

CHAPTER 5

A Competent Learner

A Competent Learner, one of the aspects of the Framework *Birth to Three Matters,* is concerned with babies' and young children's ability to make connections (for example, through the senses) and develop the ability to compare, categorise and classify; to be imaginative and creative; and to be able to use symbols to represent thoughts and language. Babies only a few hours old gaze at patterns which resemble the human face in preference to random patterns. This shows that they are able to distinguish between things, and that they appear to come into the world 'programmed' to have preferences for human faces and human beings and movements. They search out patterns. In this way young children learn to discriminate and make connections between different objects and experiences. As connections are made, the child makes increasing sense of the world. As babies explore the world through touch, sight, sound, taste, smell and movement, their sensory and physical explorations affect the patterns that are laid down in the brain. Through repeated experience of people, objects and materials, young children begin to form mental images which lead them to imitate, explore and re-enact as they become imaginative and creative. Creativity, imagination and representation through mark making allow children to share their thoughts, feelings, understandings and identities with others, using drawings, words, movement, music, dance and imaginative play.

Making Connections

During the last two decades, a growing body of evidence about early perceptual ability has forced a change in scientists' assumptions and understandings about babies. Now, even newborns are thought to have an objective awareness of their surroundings (Bremner 1998).

As we have already stated, when babies first enter the world the things that attract them most are the human voices, faces - the pattern of two eyes, stripes, edges and movement. In particular, between the ages of three and six months, babies show a growing interest in the world around them as they play and above all they are interested in other people. Their eyesight has become more coordinated, so the baby is able to focus on people and objects that are nearer or further away than the earlier short distance which oriented them to being in focus when looking into the face of an adult carrying them. Now a baby will be seen to scan the surroundings and to use fingers and mouth to explore objects. Stern (1974) suggested that at this age babies enjoy being drawn into play by their familiar adults and that the adults come to know just the right level of arousal for the baby – under-stimulation or over-stimulation will both result in non-involvement or curtailing of interest by the

baby – so adults who are responsive adjust their actions in response to babies' cues. Babies' preferred games at this stage are repetitious and ritualised, such as tickling a baby's chest before putting on a clean nappy, the beginnings of intimate family or baby-carer rituals. Winnicott (1971) believed that because the adult adjusts the play according to the baby's cues, this helps the baby feel to some extent in control of the interaction.

As Trevarthen et al (1998: 185) suggest:

> 'Dyadic, emotional and dynamic patterns of communication are shown by infancy research to form the foundations of psychological and cognitive development, social adaptation and personality integration.'

They continue by stressing the adverse impact of a lack of, or disruption to, the 'fundamental vitality' of these communications, adding that the expressions and responses of a child with autism are often difficult to 'read' because they tend to be idiosyncratic or imperceptible. As Kate Wall (2003) maintains, there are also implications for any child who is experiencing difficulties in communication skills.

It is in early encounters, exploring through movement and the senses, that cognitive development progresses. In fact Papousek's research over thirty years ago (reported in Papousek et al 1987) showed that very young babies enjoyed learning and continued to engage in experiments when the milk which had been their reward no longer satisfied them; the activity had its own intrinsic reward.

In chapter 2 the theories of Piaget and Vygotsky were outlined very briefly and in particular the way in which Piaget's ideas had been interpreted in ECEC practice was highlighted. In the field of ECEC they have had a major impact and the messages taken from their theories have largely been that the Piagetian model of children's thinking involved the idea of the 'child as lone scientist' and stages in cognitive development. Margaret Donaldson (1978) and the Post-Piagetians (for example, Hughes, McGarrigle and others) demonstrated how Piaget's theory had been misunderstood and misapplied, and that their revisions ensured that the context in which children developed their understandings was crucial. They showed how young children's understanding is contingent – related to what they experience and know – and that it is up to the adults who are educating them to help them (usually later in life) understand how to apply those understandings to thinking about other unfamiliar contexts. Research by Tizard and Hughes (1984) and Gelman and Gallistel (1978) was seminal in drawing attention to the ways in which children found tasks incomprehensible in nursery and school, which they could have solved in their homes because the tasks would have been meaningful and relevant. Among others, Gopnik et al (1999) have further shown that babies and young children arrive in ECEC settings already knowing a great deal and they use this knowledge to learn more, but they

need other people to help them. Parents and practitioners can provide that help – and sometimes other children do too – in indirect as well as direct ways. For example, by hanging a mobile over a cot or giving a baby a rattle which they have enjoyed together previously, to explore sound, feel and taste, independently.

Meanwhile Vygotsky's theory has been seen in terms of an emphasis on learning as social, the 'young child as apprentice' model, and his notion of the 'zone of proximal development' – meaning adults responsible for a child's learning would need to observe and assess both what the child knows and can do and what that child is striving to learn. The adult is then to plan how to help that child engage in appropriate activity which will both interest the child and help the child achieve the next step in the process of learning relevant to the topic in hand. Another important idea which links with Vygotsky's work is that of 'scaffolding'. Bruner (1977) suggested that when an adult or more knowledgeable other child ensures manageable steps, support and encouragement for a child trying to do or to learn something new, they are scaffolding the learning.

Meadows (1993) provides an overview and critique of Piaget's and Vygotsky's theories and research on children's thinking in which she points out the flaws but also highlights the tremendous achievements of these two researchers. As we pointed out in chapter 1 however, it is important to remember that both were from 'Northern'/ Minority World countries and even theorising is subject to cultural assumptions. Perhaps one of the most important ideas that should be taken from their research and theories is the key point that babies and young children are active learners. They are not simply vessels waiting to be filled up with knowledge. This response to learning has formed the basis for many of the intervention programmes devised for children with special needs, particularly in the USA, for example, the Direct Instruction programme developed by Bereiter and Engelmann in the 1960s, which still has echoes today. Such approaches do not take into account the rich, natural, experiences available to children who are included within a mainstream setting.

During these first years they are actively trying to **make sense** of the worlds in which they find themselves. As Donaldson (1978: 111) comments after reviewing earlier research on babies 'we may conclude that there exists a fundamental human urge to make sense of the world and bring it under deliberate control.'

Gopnik et al (1999) stress how babies and young children approach the world as if they are scientists, actively engaged in looking for patterns in what is going on around them, testing hypotheses, seeking explanations and formulating new theories. They suggest that two year olds in particular have a drive to find out how people and their familiar world 'work'. They argue that,

like scientists, getting to the 'truth' about something is a passion for young children, but sometimes that passion makes them sacrifice happiness in the home (Gopnik et al 1999).

Gopnik and her colleagues go on to suggest that babies play imitation games to try to understand other people, babble to 'try on' language; and play games like peekaboo and hide and seek to find out about objects and how people see them.

The research reported by specialist ECEC researchers such as Athey (1990), Bruce and Meggitt (2002), Matthews (2002), Davies (2002), Nutbrown (1994), and Whalley et al (2000), has provided practitioners with powerful information, which they have used to explore young children's *schemas* – early patterns of behaviour indicating that a child is working at a systematic investigation (see chapter 2 for further information about schemas). As Nutbrown (1994: 11) comments:

> 'Early patterns of behaviour seen in babies become more complex and more numerous, eventually becoming grouped together so that babies and young children do not perform single isolated behaviours but co-ordinate their actions. Toddlers work hard, collecting a pile of objects in the lap of their carer, walking to and fro, bringing one object at a time. They are working on a pattern of behaviour that has a consistent thread running through it…related to the consistent back-and-forth movement. The early schemas of babies form the basis of the patterns of behaviour which children show between the ages of 2 and 5 years, and these in turn become established foundations for learning. '

Egocentricity

Piaget (1962) argued that young children are egocentric, that they can only see the world from their own point of view. They assume that everyone thinks as they do. Gopnik et al (1999) describe an ingenious experiment in which they showed that children roughly younger than 18 months could not see another's viewpoint, by providing bowls of broccoli and biscuits. When they asked a child under 18 months to give them broccoli, saying they liked it better than biscuits, the infants still gave them biscuits, because that is what the children themselves preferred. The children older than 18 months however, gave them broccoli even when they had expressed a preference for biscuits. Gopnik and her colleagues suggest that at about this age a child's brain is actually reprogramming itself to recognise this new understanding about other minds. So although babies seem to be able to empathise by crying when other babies cry, it may be that they are emotionally tuned in to other people – both adults and children – but do not yet understand other viewpoints. Despite this, Bruner (1983) has pointed out that in observations of two babies, begun when they were three and five months old respectively, they began pointing (see chapter 4) at just over nine months and at thirteen months. He argued that pointing indicates an understanding of other minds,

and of trying to share what is 'in one's own mind'. To Bruner, their behaviour even before they began pointing signalled that babies are 'Naïve Realists', they believe there is a world of objects and that others experience the same world they do. Making connections about the world, about what things are and their significance in one's culture, is important, but being able to appreciate that others' minds may 'hold different perceptions and thoughts from one's own' is a major step.

Memory and cognitive development

Although some recent experiments show that even young babies can remember what happened in the past and can predict (see for example Wynn's 1992 experiment on babies counting toy ducks which 'disappear'), their memory abilities clearly develop rapidly between eight months and a year (see also chapter 6). This is displayed by their fear of strangers during this phase, where earlier they would have smiled.

Memory plays an important role in understanding the world and in being able to think. When a toy is hidden under a cloth a baby under about 8 months will not search for it. Gopnik et al (1999) argue that babies live in a 'magic' world where things can just vanish. Later, the baby will search for the hidden toy, realising that it still exists somewhere. This phenomenon is called *object permanence*. Similarly, when a baby recognises that people do not simply vanish, this is known as *person permanence*. It is thought therefore that during the last part of their first year babies are able to internally represent – or think about – people or objects that are familiar to them. As memory develops during the second and third year of life, children become able to engage in the construction of narratives about themselves, their families and things that interest them. These narratives help them develop their sense of self and self-regulation (see chapter 3), relate to past experiences and project into the future. These activities indicate a child's level of thinking as we will see in the next section.

Language and thought

Vygotsky (1978: 24) suggested that 'the most significant moment in the course of intellectual development, which gives birth to the purely human forms of practical and abstract intelligence, occurs when speech and practical activity, two previously completely independent lines of development, converge.' Vygotsky believed that although language may begin in social interactions, its use as a method of reflection means it is a tool of complex thinking. According to Nelson,K. (1999), Bakhtin's idea of multi-voicedness may be useful in understanding young children – for multi-voicedness means that a parent's or carer's 'voice' may 'infect' the mind, so influencing the child without this being realised. Nelson adds that narrative has now been recognised as linking human thought and language, and that what dramatists do is to emphasise the psychological processes involved in the construction of a story-line or plot. Even three year olds need to be able to weave their

understanding of action, intentions, motives, emotions, other minds, and so on, in order to engage in 'storying' (dramatic play) (Nelson 1999). (See chapters 2 and 6 for the emphasis on narrative by lead figures such as Bruner, Feldman, and Siegel). The research indicates that language development facilitates cognitive development, but equally, cognitive development fosters language development.

Jean Mandler (1999) has explored the fact that babies do not wait until the onset of language to start thinking. She states that the more she researches cognition in the first year of life, the more she is convinced that many of the most basic foundations on which adult concepts rest are laid down during this period. Mandler (1999) suggests that babies can form categories, because, for example, babies respond to dolls in a different way from how they respond to humans; and they can pick up the property of motion. Mandler concludes that language is mapped onto a meaning system. According to Bruce this means that 'it is developing a meaning system that will lead a toddler into increasingly more complex layerings in play' (Bruce 2001: 43).

Talk with other familiar people is an essential component of cognitive development. Researchers of private speech tentatively suggest (because much of their research is small scale) that pretend play with a caring adult during the second year of life may form a basis for the private speech that is used to solve problems and for self-regulation in young children (Smolucha 1991).

Practitioners should be alerted therefore to the fact that, as we pointed out in chapter 3, depressed mothers were found to talk less frequently with their babies if they were boys. Further, this was found to correlate with the infants' delayed cognitive development, compared with that of young daughters of both mothers who were depressed and those who were not, and the young sons whose mothers were not depressed (Hirose and Barnard 1997).

The importance of social interactions and cognitive development for making connections

Social interactions with their mothers and reliance on them during emotional challenges at six to nine months have been linked with cognitive and language skills at age two years (Robinson and Acevedo 2001). Children who had shown low reliance on their mothers when distressed and whose mothers had low psychological resources had less well developed language and cognitive skills than those whose responses displayed high emotional reactivity and who relied heavily on their mothers for support and social referencing. Further, Murray and Cooper (1997) discuss the growing body of evidence indicating that postnatal depression is implicated in a range of adverse outcomes for babies, especially males, impacting on their cognitive and emotional development. Emphasis on the importance of early, supportive interactions between babies and the adults 'mothering' them and

the impact on cognitive abilities, is also found in Wijhnroks's (1998) research. Where mothers were able to maintain the attention of their babies in interactions, whether the babies were pre-term or full-term, the better the outcome for the babies' cognitive development (Smith et al 1996).

Bornstein (1998: 301) reported on research concerned with the way 'Mental growth in the human child consists of the increasing coordination of mind and reality.' To do this he looked at 'habituation' – the way in which babies are at first interested, then become bored with, and lose interest in, objects they are shown several times. An important finding from this research related to babies who had been exposed to cocaine in utero. At first it was assumed that the problems such children had on entering school were the result of long-term damage from the drugs. However, Bornstein's work indicates that, while the children may well be experiencing difficult lives through continuing risky behaviour in their parents, the drug-exposed babies were not necessarily disadvantaged in their information processing abilities per se. They were suffering from an arousal regulation problem, often crying in response to novel stimulation where the drug-free babies were interested and positive.

Teasing of toddlers by fathers is more prevalent than by mothers, according to research by Labrell (1994). Such interactions introduce novelty and ambiguity, which challenge and often delight young children. However, interactions resulting in arousal mean that the adults involved need to be sensitive to levels with which their children are comfortable.

Equally, as children interact more with siblings and peers, they will be in situations where conflicts may arise. Several researchers (for example Gopnik et al 1999; Light 1983) discuss how conflict can act as a spur to cognitive development. This idea was also put forward by Piaget (1932), particularly in relation to moral development.

In research in French daycare centres, Sylvie Rayna (2001) found that very young children (less than two years old) were displaying the notion of a 'community of learners'. In one example, a seven month old baby had tried to copy the action of an older child who had inserted a straw into a tube. Rayna discusses her observations as examples of the cognitive dimension of togetherness, usually noted between mothers and infants, but in this case noted among children themselves. She links her work to Piagetian *constructivism* (the child as active constructor of knowledge through experience and not as an 'empty vessel').

Being imaginative

Play and cognitive development

In 1972 Bruner's article 'The nature and uses of immaturity' was published. In this article he argued that the young of animals play to learn and that the

capacity for learning is related to the length of immaturity. Bruner added that play involves flexibility of thought. Corinne Hutt (1966), building on the work of Piaget, suggested that when children explore, it is as if they are asking the question 'What does this do?' and when they have discovered some of the properties of whatever they are interested in, they play as if they are asking the question 'What can I do with this?' Research with school age children (Bruner et al 1976) suggests that when they have had opportunities to play (explore and experiment freely) with materials, they are better able to solve tasks using those materials later. Although play with babies may be initiated by a familiar adult, once they have had some experience babies will begin playing spontaneously – this spontaneity is an essential characteristic of play. The other key aspect is that it is the baby, or child, who is in control and any adult involved needs to follow that lead. Stern's (1977) research showed that parents who behave as if their interactions with their babies are a 'dance' in which the baby takes the lead are those who most effectively foster their children's development and learning.

In the very early years young children are playing to find out about the materials and people – the world - they find around them. Young babies will repeat the same action – for example, throwing a toy down on the floor when in a high chair, so an adult or another, older child will retrieve it – or enjoying a hiding game when they are beginning to understand *object permanence* (coming to know that even when out of sight, an object or a person still exists).

Goldschmeid's (1986) video *Infants at Work* showed the play and social interactions between very young babies, as they share the contents of a *treasure basket*, with caring adults nearby to give reassurance. Bruce (2001: 46) stresses that

> 'Children at play are able to stay flexible, respond to events and changing situations, be sensitive to people, to adapt, think on their feet, and keep altering what they do in a fast-moving scene. When the process of play is rich, it can lead children into creating rich products in their stories, paintings, dances, music making, drawings, sculptures and constructions, or in the solving of scientific and mathematical problems.'

Some learning in young children occurs through imitation. They will try to do what their carer does, sometimes after a time lapse, which indicates how memory is assisting that learning. But usually that 'imitation' is actually a re-construction – the child's own version of what s/he has observed and noted, constructed and *transformed* – in just the same way a painter like Picasso would transform experiences, ideas, feelings and perceptions into a work of art. Bruce (2001) provides a detailed overview of learning through play in the years before six, commenting that during the toddler years children begin to

rehearse roles, pretend and create play props, as their ability to imagine accelerates rapidly, along with language and play with symbols.

Meanings are made, not merely dispatched and consumed, as Meek argues,

> 'The most strenuous period of imaginative activity is that time in childhood when we play with the boundaries of our view of the world: sense and nonsense, the real and the fictive, the actual and the possible, all within the cultural domain we inhabit.' (Meek 1985: 53)

Observing children when they play in familiar surroundings is not only enjoyable, it is essential, because it is during play that children are relaxed enough to 'perform' in ways which demonstrate the amazing extent of what they know and can do (see Lindon 2001). MacNaughton and Williams (1998) and Bruce (1996a) provide valuable insights into the ways in which adults can teach very young children, fostering learning through play and the kinds of meaningful activities in which they become engrossed.

Being Creative

Robinson, and others, claim that creativity is in crisis (Robinson 2001) as instruction and information giving and gathering overwhelm the time available for nurturing and valuing different intelligences and ways of being and belonging.

Yet the curiosity of very young children and their ability to take risks in discovery provide a firm basis on which creativity can be developed. By about eight months of age, when children can move reasonably independently, away from the familiar landscapes of the adult faces who entertain and communicate with them, children will range independently around their home landscape, seek out and explore objects constantly. Anything reachable can be turned into a plaything. Many parents are familiar with the idea that, in this, the child's research, places such as kitchen cupboards become play sites (Pierce 2000). Such exploration satisfies curiosity but it is also helping the child develop perceptual and spatial awareness. Again, the restricted ability to move and to explore of their own accord, experienced by children with cerebral palsy or those not motivated to move like some children with Down's syndrome, means that these children will not develop perceptual and spatial awareness as effectively as other children.

In Kate Pahl's longitudinal research study of young boys' meaning making activities in their homes, she found that children often drew on the 'cultural capital' available to them at home, including games played, televisual texts, Supermario, the home site: spaces and artefacts as well as stories heard, etc, (Pahl 2001:120) in order to enrich their meaning constructions and transformations. Commercially produced toys are seldom used in isolation for creative purposes and sometimes their use can be counter productive,

particularly if directed by adults. In Pridham et al's (2000) research project, investigating the optimum conditions for children's focused exploration of toys, they found that a care-giver's 'attention-directing behaviour had a negative effect on infant exploration of toys. The more a mother directed and consequently, refocused her infant's attention, the less focused exploration of toys the infant did' (Pridham et al 2000:1445). More often, play, storying and creative acts appeared to take place in the co-constructed worlds of adults and children and Pierce discovered through her observations the significance of 'dyadic interplay between the occupations of the mother and those of the infant and toddler'. She found too that the mothers in her study 'supported and shaped infant and toddler play in the home through their management of home space and its play objects' (Pierce 2000: 297). It is, as Meek suggests, the affective nature of play, the exploration of alternate worlds, the 'rituals of story play' that serve as cultural reference points in the development of what children see as *real* and *not real* (Meek 1985: 49). (Note again here the involvement of shared, co-constructed rituals and narratives, shaped by the children with adult support and encouragement, reiterating the 'messages' in the section on language and thought earlier in this chapter.)

It is Malaguzzi, in discussing the philosophy of Reggio Emilia, who describes the nature of children and creativity from his work and observations:

> 'They have the privilege of not being excessively attached to their own ideas, which they construct and reinvent continuously. They are apt to explore, make discoveries, change their points of view and fall in love with forms and meanings that transform themselves.' (Edwards et al 1998:75)

Malaguzzi's belief is that 'creativity requires that the *school of knowing* finds connections with the *school of expressing*, opening the doors to the hundred languages of children' (Edwards et al 1998: 77).

Through the use of language and literature, and playful encounters with both, parents and carers are able to show young children the nature of what is possible. Robinson claims that creativity is actually a process whereby one sees new possibilities and that a feel for the materials and processes involved, as well as using one's intuition, is vital (Robinson 2001). The emphasis in the discussion of creativity in young children is on process rather than production and the exploratory and affective nature of children in determining their play spaces and contexts is, by definition, creative. If, as Robinson claims, creative processes find their roots in imaginative thought, in transformation, and in conceiving of new possibilities, then the child ranging through kitchen cupboards and using saucepans and kitchen utensils as percussion instruments is engaging in creative acts.

> 'Where there are high quality opportunities for babies and toddlers to create and imagine… the key person is attentive to a child's creative explorations, providing assistance in a way that does not disrupt the

> child's flow of thinking and through their unobtrusive support gives the child the emotional security to experiment.'
> (Manning-Morton and Thorp 2001: section 7: 3).

Although, most frequently, creativity is seen in childhood as taking part in a cooperative and co-constructed world (Meek 1985, Dyson 2001), the very young child can be regarded as being creative when engaging in a monologue while pushing a toy train, or while simply digging sand. Similarly, Weir's pre-sleep monologues, the noise production of a single child exploring clanking resources or a song or rhyme constructed playing with sounds or words are examples of children's creativity. Anna Craft maintains that 'creativity is dispositional and not a matter of ability... choosing a creative path in any given situation is less a matter of ability to do so and more about "mind set" or attitude' (Craft 2000: 107) and, without the constraints perceived or collected as children grow and mingle in critical groups, young children in emotionally safe contexts are able to follow an exploratory and risk taking mind set.

Of course, as Chambers reminds us, it is 'in literature that we find the best expression of the human imagination and the most useful means by which we come to grips with ideas about ourselves and what we are' (Chambers 1993:16) and children need not only to construct and reconstruct their lived lives in playful contexts, but also to find their lives mirrored or referenced in the texts encountered in their early years, although there are still very few story books which include young children with disabilities as central, powerful characters.

There has been much celebration of Maurice Sendak's (1970) story of *Where the Wild Things Are* (Meek 1998) simply for this reason; children are able to find their own relationships and temperment in Max as well as their own sense of safety and well-being in the delicious closure to the tale, back in his very own room. Such texts are reassuring but also risky and challenging and they dare to play with safe contexts and upend them, exactly as children do through play and role play.

Robinson (2001) believes that at the heart of the creative process lies the relationship between knowing and feeling. This relationship brings together the investigative, information gathering explorations of babies and young children and the affective nature of the world of they inhabit in safe, shared contexts. What artists do is to take what we know or see, feel or hear, and actively experiment (Gopnik et al 1999), transforming that knowledge through their creations - and babies and children do this too. As Bruce (2001: 4) suggests:-

> The imagination makes images in the mind. Creativity is the process by which children turn these images into creations. They try out ideas, feelings and relationships in their role play or pretend play or find

things to be used as play props. …In the context of play, creativity is more of a process than a product.'

Representing

'Children want to write… They mark up walls, pavements newspapers with crayons, chalk, pens or pencils .. Anything that makes a mark. The child's marks say, "I am".' (Graves 1983: 3)

Babies' fingers and hands, as we have seen, are used to feel, to touch, to explore, to point, to reach and then to wave or gesture. In their movements, cruising and explorations, materials with which to make marks are often accidentally found, tested and enjoyed. For example, as soon as solid food and drink is introduced , babies can be seen to pour drinks onto surfaces and trail their fingers through it and dip fingers into food, not only to use their fingers as tools for feeding but also to trace pathways and investigate trails and tracks. Physical traces of babies and young children are often to be found, before the use of pens, pencils, crayon and paint, on surfaces, walls and fabrics and before the symbolic nature of mark making that we know as literacy is discovered. What is happening, however, is that very young children soon discover *intentionality*, that is the desire to make a mark, to 'signify' and to produce an effect. The pleasurable effect of such tactile events is also felt by adults, as they too trail fingers in sand, tracing patterns or shapes, or indeed doodle or idle with pens or pencils, letting minds wander and allowing often non-representational shapes to develop. Making marks, 'leaving my mark', has often been described as a basic human desire and function, leaving signposts or signifiers of our existence. This intentionality in mark making parallels intentionality in their other forms of communication, as a predictor of language development (Laakso et al 1999).

Parents and carers are often quick to seize on such marks made by infants and interpret them as having significance although, while such marks are clearly important, imposing representational significance at this stage would be incorrect. However, in western societies, children are growing and learning in print rich and print significant cultures and very quickly young children become encultured into sign making activities. Also, as children begin to develop an ability to conceptualise the abstract nature of language, the next stage, Vygotsky's 'second order symbolism' (1978), begins to take shape. As Kress explains, 'alphabetic cultures demand that children change tack from their route which relates voice with image, which is plausible to them, to the route of the alphabet, which relates sound with image (the image of a letter) which is not plausible to them' (Kress 2000:69).

Indeed, at this stage, during their first years of life, young children are busy making sense of their world, interpreting sounds, language, intonation and voice and establishing strong bonds and relationships with family and carers. It is in this context that the representation of this world becomes possible with

all the cultural tools available to them (Pahl 1999; Kress 2000). That is, children will happily represent their world with toys, artefacts and available materials, in a multi-modal sense as well as with pen and paper, still through play, as they place-hold, or fix in time sounds, objects, events or people (Barrs 1988, Pahl 1999). At this stage, Kress argues, 'drawing the world and writing the world are much the same thing for a child; both are recordings, transcriptions, translations, 'spellings' of aspects of the world of the child'. (Kress 2000: 69).

Beanie (then 2) wanted to play at being in a café. Her Mum and Nan were told to be customers but when Mum was asked what she would like by the waitress (Beanie), she asked for a menu. For a moment Beanie thought, then decided she would go to another room to fetch a book. Nan gave her a piece of paper, folded, instead. Without any prompting, she went to a table where there were pens and began to mark across the paper, each line a different set of shapes or loops. She had created a menu, which became part of the shared ritual of café play lasting many months and becoming more elaborate with each enactment.

> 'Children need to represent their experiences, their feelings, and ideas if they are to preserve them and share them with others. When we represent we make an object or symbol stand for something else' Duffy (1998: 9).

Before any evidence of alphabetic print emerges, children engage in mark making to represent immediate occurrences, for example 'two to three year olds may represent the movements of clouds and water; the wind blowing the washing; washing one's hands; combing one's hair; bubbles rising to the surface of water; dinosaurs bleeding to death; the actions of walking along, tripping over and falling over into a dustbin; or even simply the act of sitting down.' (Matthews 1998 :94). Such 'action representations', claims Matthews, are formed from observations, then interpreted and represented, often in ways that appear not to be representational or meaningful to adults. It is interesting that when children are engaged in such mark making activities, speech almost always accompanies the process, establishing Vygotsky's notion that 'inner speech' becomes the director of language and action, 'bringing awareness to speech' (Vygotsky 1986:183). So, circular marks on the page may be the wheel 'going round and round' or a firework shape, and such drawing will often be accompanied by onomatopoeic sounds, shrieks and explosions.

Eliot (at two and a half) was at home chalking on a blackboard and narrating a tale of a donkey who ran away from a horrible, cruel person – he traced swirls as he told of the donkey's wanderings and finally brought his drawing to the centre of the board when the donkey found shelter and happiness with a little boy and girl. The staff at his nursery, when told of this storying,

explained that they had read a tale to the children about a donkey who had a cruel owner and who ran away.

As well as signifying objects and events through making marks to symbolise them and fix them in time and space, children are also often encouraged at this stage to be involved in writing acts in different genres that are socially and culturally significant, for example signing birthday cards, mimicking shopping lists and writing notes. Their name, and the letters from their name, become the focus at this stage for much of the writing as well as a range of other circular and stroke-like shapes that young children perceive to be the nature of adult writing. It is interesting that very young children have been observed to make marks which reflect the written language of their culture at this stage with, for example, children from some majority world cultures making marks from right to left, or top to bottom, using dots, pictures and other symbols, some of their own invention, to represent and make meaning. They are drawing on all available cultural capital to create such scripts and 'the decisions which children make in reading and writing… are not only organised but are laced with both personal and social organisation. This interplay between personal and social organisation in the evolution of literacy is universal' (Harste et al 1984: 107). Thus, individual children can be seen to represent, in their representations, whichever society, community and culture to which they belong.

It is important to acknowledge the crucial part that the context, a writing environment which is accepting, emotionally positive and in which there are appropriate resources, plays in children's developing understandings of the codes, symbols and signs that determine effective print communication. Such contexts, determined and defined by parents and carers, as well as accompanying interactions, form the basis of the affective nature of the experience. Because a child must 'disengage himself from the sensory aspect of speech and replace words by images of worlds….which lack the musical, expressive, intonational qualities of oral speech' (Vygotsky 1986: 181), then, whether or not there is any sense of emotional engagement by and with adults will affect whether or not children wish to repeat the process or event.

For many adults and care-givers, such pleasurable interactions are natural. Indeed, when Campbell recorded a day in the literacy life of his three years old grandaughter, he found that she was naturally, intentionally, playfully and cooperatively engaged in oral and written literacy events throughout the day. Further, Alice orchestrated these activities with everyday rituals and routines, such as meal times, and the events were almost exclusively initiated and led by the child (Campbell 1998). However, with parents and practitioners currently feeling pressurised into engaging young children in functional literacy at a very young age, it is important to remember that at this age children will attend most voraciously to what interests them. The

experiences, memories and interaction in which young children are engaged are constantly being revisited, refined and consolidated with both concrete and abstract connections being made between objects, events, people and interactions. It is in this everyday, social context in which young children's development occurs that literacy can also emerge and grow. It is this idea of 'literacy and literate outcomes as processes to be experienced, to be placed in relation to other literacy events and practices rather than seen as unchanging objects of study or unquestioning reverence' (Bearne 1995 : 4). Also, because the beliefs that we hold as adults, parents and carers, affect what child behaviours we value and encourage (Harste et al 1984), it seems important to develop and give status to opportunities and resources in safe and meaningful contexts for children to explore, imitate and reconstruct the sign systems which will influence and shape their lives, within their own and others' cultures. Indeed, as Matthews claims, 'what we represent, the forms this representation may take, and how far societies support the growth of representational and expressive thought, are pedagogical, social and political issues' (Matthews 1998: 105).

What children 'represent' will be influenced by the material nature of their surroundings (including the voices and exchanges they witness) and the significance given to such materials by family and community. Bruner takes the view that 'human mental activity depends for its full expression upon being linked to a cultural tool kit' (Bruner 1986:15) and Kress reminds us that 'as children are drawn into culture, 'what is to hand', becomes more and more that which the culture values and therefore makes readily available' (Kress 1997:13). Allowing children the freedom to explore, express, denote and communicate through mark making in a supported environment that values talk and interaction will ensure that early mark making feeds into developing literate practices (David et al 2000).

Developing effective oral and written skills of communication and engaging affectively with such practices are both crucial to young learners as 'language has to interpret the whole of our experience ... with the child carving out for himself a route that reflects the particular circumstances of his own individual history and experience' (Halliday 1978: 21).

As children experiment, take risks and make marks that 'stand for things in the world' (Kress 2000 :6), within a literacy rich environment, including newspapers, cereal packets, signs, notices, advertisements, printed tee shirts as well as screen literacy, with adults who care and interact in supporting and challenging manner, then they will emerge as literacy users themselves. However, this is not a tidy process - such as underwriting or copying may seem to be. It is necessary to 'live with the litter of literacy' (Harste et al 1984:140), as those who have documented their own and other children's literacy development will confirm (eg Bissex 1980, Pahl 1999). They suggest this involves signs, notices, scraps of paper establishing identity and

relationships, and offering persuasion, as well as maps, constructions and artefacts. However, the lasting effects of this temporary state are that young children develop as makers and users of the symbolic code in meaningful ways, learning of the power and influence that communication acts involving writing can wield.

Links with the Framework

The *Development Matters* points for this Aspect, *A Competent Learner*, in the Framework pack *Birth to Three Matters* are as follows:-

Making Connections

- Young babies use movement and sensory exploration to connect with their immediate environment.
- As they become more mobile babies connect with toys, objects and a wider group of people.
- Young children learn through repeating patterns of play (sometimes called schema).
- Children begin to connect objects and ideas: a *pair* of socks, a *big* teddy, armbands *for* swimming.

Being Imaginative

- Young babies enjoy and learn by imitating their key person.
- As they become mobile, babies use their whole bodies to recreate an experience.
- Young children re-enact familiar scenes with the help of people, props and resources.
- Children engage in concentrated play in which they extend their language and try out ideas, feelings, relationships and movements.

Being Creative

- Young babies explore their immediate environment of people, objects and feelings through all their senses.
- Babies quickly make sense of and respond to what they see, hear, feel, touch and smell.
- As young children become more mobile, they express themselves through physical action and sound.
- As children become more skilful in using language and other forms of communication, dance, music, 2D and 3D art, they talk about, and share in other ways, the things they paint, draw and play with.

Representing Through Mark Making

- Young babies discover mark making by chance, noticing for instance that fingers trailed through spilt juice can extend it or that a hand imprint remains in wet sand.
- Babies imitate and improvise actions they have observed - a scarf is made to stand for a blanket or a skipping rope handle for a microphone.
- As young children explore tools and materials they make marks to which they give meaning.
- Children begin to recognise some marks and realise these mean something to others.

Parents and practitioners can observe babies and young children engaging in the behaviour outlined in the lists above and reflect on the research information provided in the different sections of the chapter, which demonstrates the amazing competence, scientific exploration and 'sense making' capacity of these very young people.

Summary of key 'messages'

This chapter has reviewed research about children's incredible competence in learning – from birth (begun even before then, in the womb). The most important 'messages' from this research are:-

- Babies seem to be tuned to learn from, with and about, firstly the people and the cultural environment around them, followed by the material environment - they come into the world primed to be curious, competent learners
- Play, in which the baby or child takes the lead and makes choices, is a process which fosters cognitive development
- Children 'make sense' of and 'transform' knowledge, experiences and events through imaginative and creative activity
- Language and thought are developmentally linked; they each depend on and also promote the development of the other
- Children's developing memories and use of narrative help them make sense of their lives
- They want to share and express their ideas playfully through the 'hundred languages of children' (for example, dancing, singing, talking, 'storying', music making, painting, making patterns, building, model-making, 'animating' puppets and other toys, dressing up, gardening, looking after animals, drawing, mark making – to list but a few possibilities)
- Once again, the research points to the centrality of positive relationships with parents and other key people in young children's lives.

CHAPTER 6

A Healthy Child

A Healthy Child, the focus of the fourth aspect of the Framework *Birth to Three Matters*, brings together evidence about young children's mental and physical well-being. As we stated in the introductory chapter, being healthy means much more than having nutritious food and being free from illness. For babies and young children being special to someone and cared for is important for their physical, social and emotional health and well-being. Health and social well-being underpin and determine children's responses to their environment, to people and to new experiences. Emotional well-being includes relationships, which are close, warm and supportive; being able to express feelings such as joy, grief, frustration and fear leading to the development of coping strategies when faced with new, challenging or stressful situations. As the research in chapter 3 and that presented in this chapter shows, early emotional health and freedom from stress bodes well for both mind and brain.

Meeting children's physical needs is fundamental to their well-being. As they are growing and developing children who are hungry, tired, ill or uncomfortable will not enjoy the company of adults and other children. However, young children will soon become bored if choice is limited or provision inappropriate to their needs. Responsible adults need to plan and offer caring support to keep young children safe and protected in a variety of ways and gradually they will know when to ask for help. It is through their own explorations and struggles to be physically independent that they quickly become skilful in a range of movements involving both large and fine motor control. In time, young children learn about their bodies and what they can do and are able to make their own healthy choices.

Work by researchers over the last twenty-five years has changed much of the thinking about babies and young children and their capabilities. Stern (1977) and Kagan (1984) showed how newborn babies already have some abilities, or they become evident during the first month of life, and they then build on these. Sight, smell, hearing, touch, the ability to feel pain and to respond to changes in body position are all present when a baby is born. This means that the human body and brain are amazingly primed to 'take on' and try to make sense of the unique world in which each individual comes.

This chapter outlines information and issues concerned with healthy bodies, brains and minds, how they grow and develop and what they appear to need. In particular, the chapter provides a review of what is now known about the brain in the early years. It also raises some of the issues that relate to health

and research evidence concerning early intervention to ameliorate the effects of disadvantage on health.

What does 'healthy' mean?

Our understanding of the term 'healthy' is dependent upon particular social and cultural constructions. What constitutes being 'healthy' in the UK may well differ from its definitions in other social contexts. Within the UK, different ethnic groups are said to have varied health needs. However, Currer's (1991) research raised issues about the effects of institutional racism through stereotyping and Black (1989) contributed the understanding that the attitudes and expectations (in relation to health) of children of British minority groups are similar to those of their schoolmates. So, while there may be some special conditions or circumstances to which attention should be paid, and any relevant religious rules relating to diet, for example, need to be acknowledged and followed in ECEC settings, practitioners need, above all, to recognise parents' and grandparents' fund of knowledge, and to respect this, while ensuring they address all children's health and safety needs.

Meggitt (2001: 1) discusses health in holistic terms, and suggests that being healthy constitutes a number of different physical, mental and social, emotional, environmental and spiritual states (see diagram below). These are being fit, not being ill, being able to adapt, living to an old age, and being happy. Her Six aspects of health, irrespective of age, are presented in Figure 1 below. Meggitt (2001: 4) also recommends the basic needs of babies and children for achieving and maintaining healthy growth and development as being,

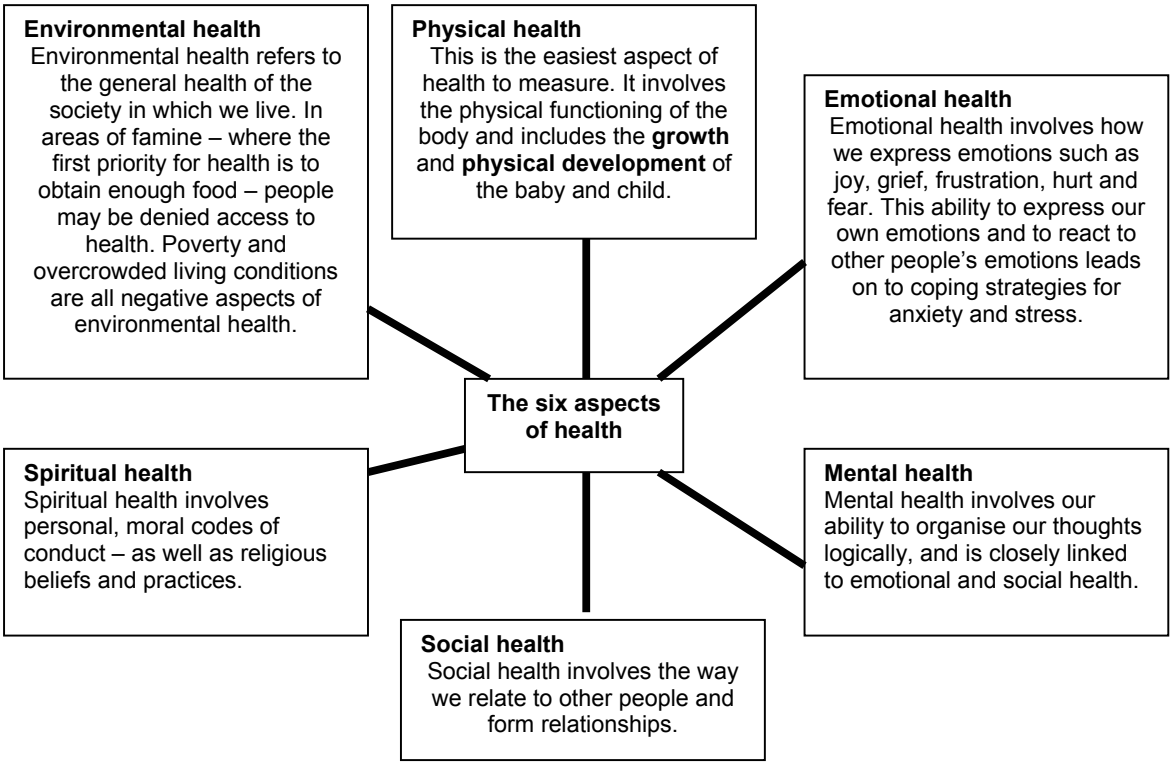
> 'protection from infection and injury; shelter, warmth, clothing; access to health care; intellectual stimulation; praise and recognition of achievements; social contacts; security; cleanliness; fresh air and sunlight; love and consistent and continuous affection; sleep, rest and activity; and food.'

From her own review of the research literature, Meggitt lists the aspects of children's lives that affect their health as being

> 'genetic factors, pre-conceptual factors, antenatal factors, perinatal factors, nutrition, infectious diseases, housing, income, accidents, emotional and social factors, lifestyle – social and personal habits, environmental factors, and government policy' (Meggitt 2001: 9-10).

The articles of the United Nations *Convention on the Rights of the Child* (United Nations 1989) also stress many health and safety issues and the view of *protection* from harm in the Convention has a wider interpretation than that referring to child abuse as defined in the UK (Home Office, DoH, DES, Welsh Office 1991). The Convention, like the Children Act 1989, recognises children's own views and wishes as important – in other words their personhood is acknowledged.

Figure 1: Six aspects of health **(Meggitt 2001: 2)**



Mayall (1996) reports on a study of (5 to 9 year-old) children's own management of ordinary health maintenance and notes that children have tended to be the *objects* of health care; their opinions have frequently been 'downgraded' by health professionals. Yet children, she asserts, also 'acquire health-related knowledge through informal learning at home…they use their knowledge to promote their own well-being, in the context of and in interaction with social and physical features of their environment' (Mayall 1996: 30). Children are actively participating in the maintenance of healthy lifestyles (their own and others). Pridmore and Stephens' (2000) review of the child-to-child approach to health education (albeit with reference to older children) also shows how this approach, which is in operation in more than eighty countries worldwide, acknowledges children as active participants in health promotion and maintenance of healthy lifestyles.

While the children on whom this review is focused are younger than those cited above, Post and Hohmann (2000) provide guidelines, which are relevant to children aged under three. As they state, infants and toddlers do not have any choice about being in group care but every part of the day affords

opportunities for staff to ensure they can make choices, such as what they want to explore and play with, and for how long. It is in making these choices that young children gain a sense of some control over their own lives.

It is only by being given opportunities to make choices like those suggested above that children begin to understand the consequences of their decisions and to become competent at steering their own life courses. It may be that one of the key factors leading to the later life successes (including greater freedom from mental illness) of the High/Scope preschool programme 'graduates' (Schweinhart et al 1993) is the emphasis on the 'Plan, do, review' routine, which places the responsibility for how they spend their time on the children themselves.

The *Birth to Three Matters* Framework includes the following developmental pointers relating to *Healthy Choices*, for practitioners:-

- From birth, young babies show preferences for people and for what they see, hear and taste.
- Babies discover more about what they like and dislike.
- As young children become more mobile and their boundaries widen, they make choices that can involve real risk.
- Children become more aware that choices have consequences.

Clearly, where babies and very young children are concerned it is primarily their parents who take responsibility for protecting and promoting their child's health.

A range of factors contributes to health and well-being. For example, socio-economic inequalities (which are more fully discussed in the section of this text on poverty) have been shown to lead to differences in children's health. Moreno (1993: 23) reports that low birth weight is almost always 'the result of prenatal socio-economic, lifestyle or behavioural factors on the part of the mother and family'. Bradshaw (2001) reviewed social and biological factors in the deaths of children under three in England and Wales from 1981 to 1997 and found them approximately halved over this period. However, Bradshaw's (2001) text concerning research on poverty and childhood reports that although death rates were decreasing between 1987 and 1991, gender differences remain significant, with the death rate for boys aged between one and 14 years 30 per cent higher than for girls.

Wachs (2000) reviews the evidence of research into the links between nutritional deficits and behavioural development. He reports that severe postnatal malnutrition, both mild and severe vitamin and mineral deficiencies, and chronic under-nutrition have been shown to lead, for example, to problems such as general and specific cognitive deficits; lower neonatal reactivity; apathy, irritability, lower activity levels and higher inhibition; and increased risk of poorer cognitive and academic performance respectively.

Zeanah (1993: 353) discusses the interplay between environment and genetics in infantile onset obesity and informs us that 'environmental risk factors such as low socio-economic status are known to be strong predictors of subsequent obesity'.

The National Heart Forum (2002: 4) expresses grave concern about 'current trends and inequalities in diet, physical activity, obesity and smoking' which are so serious as to be leading to 'an epidemic of coronary heart disease, as well as stroke, cancer and diabetes in 40-50 years' time' unless remedial action is taken now. This means educating children to adopt a healthy lifestyle from a very early age, as well as taking action at national, local and family levels on the recommendations of the British Medical Association (BMA 1999) concerned with poverty, diet, exercise, smoking, drugs, and other measures including improved access to ECEC.

Protecting young children against infectious diseases through immunisations targets one area that is responsible for infant and childhood mortality (Kristensen et al 2002). Infectious diseases accounted for 4 per cent of postnatal deaths in the UK in 1990, and for 7 per cent of deaths of children aged between 1 and 4 years. However, controversy about the 'MMR' (measles, mumps, rubella) triple vaccine gave rise to concern about children who were not being immunised in 2002, while others claimed that there is a risk of a child developing autism as a result of this vaccine. While Christie (2002) wrote that experts had found no links between the MMR vaccine and autism, there were other reports in the popular and scientific press *(See The Sunday Times 23 June 2002, and the BMJ, May 2002)* that contradicted one another on the subject, and the debate continued during the summer and autumn of 2002. Travis (2002) reported the results of a survey of 1003 parents in the UK which revealed that three in every four parents questioned wanted the government to provide 'free separate measles, mumps and rubella vaccinations for their children amid rising concerns about the combined MMR injection' *(*Guardian online 2002*)*. (See Barr and Limb, 1997 for a review of medical, scientific and ethical issues relating to the MMR vaccines).

It is not possible to cover all the health issues concerning young children in this text and readers are directed to the review by the British Medical Association (BMA 1999) and their recommendations. However, in this chapter we have tried to provide an introduction to a number of key aspects of health in babies and young children. Firstly, we explore research evidence on brain development.

Young brains

In the last twenty-five years, technological advances have enabled scientific researchers to make new discoveries about the development of the human brain: its formation, growth and cognitive activity, for example (see Nelson

and Bloom 1997). However, a number of researchers have argued that the evidence should be regarded with some scepticism because some of it is old, some from studies of diseased brains and some from studies of rats, rather than humans (Aubrey 2002; Blakemore 2002; Bruer 1999).

Meanwhile, Catherwood (1999) outlined these technological advances in the context of their relevance to developmental psychology and early education, and concluded that new research has begun to indicate that Piaget's characterisations of infant development 'vastly underestimate infant cognitive development' (Catherwood 1999: 28). Mark Johnson (1999), a cognitive neuroscientist at Birkbeck College in London, has claimed it is curious that Piaget, despite his biological approach to human cognitive development and belief in an activity-dependent nature of development, was typical in neglecting brain functions, perhaps because at the time of Piaget's writing there was little information about the brain and certainly not the imaging and computer equipment available today. In spite of the sophistication of today's equipment, Greenfield (in Moyles 2002) claims that the non-invasive techniques are still not refined enough to examine connectors in the brain.

Meade (2001) reviews the evidence available about brain research in relation to early childhood, and helpfully summarises the advantages and disadvantages for researchers and practitioners of neuro-imaging procedures. Neuro-imaging technologies, such as PET scans (Positron Emission Tomography) not only have allowed neuroscientists to study brain activity, but have also led to new or revised perspectives about early childhood development.

For example, it is now known that the nature versus nurture debate is not productive in the quest to better understand the ways in which biological (genetic) and environmental factors impact upon each individual child's development (see Chapter 1). Barnet and Barnet (1998) describe development as 'a lifelong dialogue between inherited tendencies and our life history' and this view is central to their discussions of children's intellectual, moral and emotional development from neurological and psychological perspectives. Shonkoff and Philipps (2000) also concur that neuroscientific evidence has led to a clearer understanding of the ways in which 'genetic and environmental influences work together in dynamic ways over the course of development' and that they are mutually influential. Johnson and Mareschal (2001) provide evidence from research into infants' perceptual development (vision and attention, action and space, social cognition, and speech perception) which has used, among other technologies, neuro-imaging to help reveal the ways in which nature and nurture interact.

There are conflicting views about the extent to which environmental influences and stimulation shape early brain development and subsequently impact upon one's later physical and emotional well-being. There are

opposing views about whether 'missed (or neglected) opportunities' during early brain development can be regained later in life. Shore (1997), for example, drew together insights on early development gathered largely from a 1996 conference in the USA of 'the nation's leading brain scientists, experts in child development and early education…' which stated that 'early experiences – positive or negative – have a decisive impact upon how the brain is wired' and that the timing of such experiences is crucial. Furthermore, Shore warns that research has indicated that the emotional neglect or abandonment of children very early in life can often lead to the impairment of brain-mediated functions such as empathy, attachment, and the regulation of the emotions (See Gunnar 1996). The claims that the first three years of life are critical to brain development led not only to a proliferation of articles aimed at parents, carers and educators, but also to a critical response from Bruer (1999). In his review of neurological and psychological evidence, Bruer refuted the view that windows of opportunity for brain development close down after the first three years of life (with the exception of vision). Instead, he argues, neuroscientific findings have sometimes been stretched to form tenuous claims about early brain development to fit the aims of research or policy. While acknowledging that there are critical periods in brain development, Bruer added that the brain's plasticity allows lifelong learning. For example, he tells readers that vocabulary growth and, possibly, Verbal IQ measures is linked to experience – exposure to new words and ideas – and that at any time in life humans can benefit from such exposure (Bruer 1999).

Further support for this plasticity in the human brain is found, as stated in chapter 1, in the fact that Romanian children who were adopted after a period of serious early deprivation made up their physical and psychological losses.

There are, however, aspects of the evidence on brain development about which Bruer and Shore agree. Namely, that it is during the first three years of life that the human brain *makes trillions of new* (synaptic) connections, and that environmental influences are known to impact upon these connections. Bruer (1999) noted that neuroscience has led to the discovery that early in their development, both humans and other animals experience a rapid flowering of synapse formation, that is, in brain connectivity. Furthermore, environmental influences on the brain's early formation and 'wiring' can be both positive and negative and can take place even before a child is born. Nelson,C. (1999) also argues that neuroscientific work has shown that 'neural plasticity…the subtle but orchestrated dance that occurs between the brain and the environment' may lead to reconceptualisation of ideas about intervention, competence and resilience. He stresses that it is important to dispense with nature versus nurture arguments in favour of a new approach to understanding how experience can modify the brain, and how knowledge derived from such an approach can better identify intervention procedures, for example.

Thus the implications for children with special needs are that intervention programmes should be fine-tuned to ensure maximum stimulation for those aspects, sensory, physical or intellectual, to enable the synapses to form/ connect.

Babies' brains develop at an astonishing pace in the early years. Brains are genetically wired at birth, but the complex circuitry that permits mature thought processes to occur only begins to develop in early childhood, and connections continue to be made throughout life, and are shaped by experience.

The human brain begins its lifelong, developmental journey in the womb; by the end of the first month the human foetus already has a primitive brain which, by nine months' gestation has formed virtually all of the neurons that it is ever likely to have (Greenfield 1997).

It is now known that a baby's brain is not fully developed at birth, although it arrives in the world with most, if not all, of its neurons in place and with some connections between them (synapses) that have permitted basic foetal movement in the womb, and which subsequently allow vital and reflex functions to occur neonatally. While a newborn, or neonate's, brain still has a long way to go on its developmental journey, it is not 'empty' or inactive. At birth, the process of wiring up synaptic connections (called synaptogenesis) continues and accelerates. Webb,S. et al's (2001) review in neurological detail the process of postnatal neuroanatomical change and its implications for behaviour, and they emphasise that brain development is characterised by two main periods, the first beginning at conception, and the second during gestation (the latter continuing for up to two decades). They observe that many researchers (such as Goldman-Racik 1987; Katz and Shatz 1997 cited in Webb, S. et al 2001*)* have proposed that early brain development involves a huge overproduction of synaptic connections; some of these connections will become redundant and are subsequently 'pruned' away. Connections that have been repeatedly used tend to be retained, and those that have not been used often are shed. Pruning in the brain, much as in the garden, not only eliminates circuits that are surplus to requirements, but also allows the remaining circuits to grow bigger and stronger.

The metaphor of plant growth was used by Diamond and Hopkins (1998) in their synthesis of early brain research and information on children's playful activity, *Magic Trees of the Mind*. A detailed explanation of the processes of synaptogenesis, synaptic pruning, can be found in Bruer (1997), where he also discusses the 'windows of opportunity', otherwise known as 'critical periods' in brain development. Greenough et al (1987) have described these periods, saying that it appears that through the process of evolution, neural

systems have been developed which expect to find particular types of stimuli in the environment, stimuli which are capable of fine-tuning their performance.

The *'Brainwonders' website* defines critical periods as developmental phases that are dependent upon environmental input; it adds that there are differing critical periods for 'the presence of certain nutrients … for certain types of sensory stimuli (such as vision and speech sounds), and for certain emotional and cognitive experiences (attachment, language exposure)'. On the other hand, it is also made clear that 'there are mental skills, such as reading, vocabulary size, and the ability to see colour, which do not appear to pass through tight critical periods in their development.' However, yet again there have been disagreements about the possible existence of such periods in human development, Blakemore (2002: 28) writes that 'Most neuroscientists now believe that critical periods are not rigid and inflexible. Rather, most interpret them as 'sensitive' periods.' Those who believed in the existence of critical periods set in motion what Johnson (2002) refers to as a plethora of materials, such as videos, claiming to 'boost' your baby's brain, and implying that these will result in long-term beneficial effects. He stresses, though, that such claims currently have little support from neuroscience and that they should be treated with caution. This does not mean we should treat babies as if they have no brain, nor young children as if they cannot benefit from education (in its broadest sense – not formal schooling) until they are admitted to school, as one Times editorial appeared to argue not long ago, suggesting that the purpose of nursery provision is simply to prepare children, so that 'the reception class can begin the proper process of education.' (The Times 1995: 17).

We now know that, right from birth, babies are capable of turning their eyes towards what interests them, in particular to faces. But as Johnson (2002) says, sometimes babies' brains have been thought to be passively shaped by their environment, probably because, to the unfamiliar eye, they seem unable to do anything, perhaps since their use of their arms and legs is undeveloped. Johnson's point sums up the traditional English view reflected in the saying 'children should be seen and not heard' and the fact that adults, including young parents, in England who have public conversations with babies are often looked at askance. Perhaps one outcome of the *Birth to Three Matters* project might be the promotion of joyful, public conversation between babies and young children and their carers in shops, streets, everywhere - to push home the message that children have brains and that they are trying to make sense of the world from the moment of birth. It is in sharing these ordinary encounters that brain development is promoted as well as other aspects such as emotional attachment and self-esteem, as we have already discussed.

Neuroscience has started to map out the ways in which young brains make the connections that are the key to each individual child's personality, its mind. It has also provided useful insights into the ways in which

environmental influences can impact upon the brain. Eliot (1999) describes the medical research into environmental influences on the prenatal brain. She reports that poor nutrition, substances and chemicals, alcohol, cigarettes, illegal drugs (including marijuana) and maternal emotion and stress can all have detrimental influences upon the developing brain. Caffeine, sweeteners and monosodium glutamate (MSG) were also tested but no ill effects had been found. Research by Drewett et al (2001) with malnourished Ethiopian children also found that early malnutrition does not have a permanent adverse effect on brain development.

By contrast, neuroscience does not offer keys to raising a super-intelligent child; indeed, Bruer (1997) argues that neuroscience has been incorrectly applied to devise cognitive development programmes that claim to boost a young child's intelligence. Discussing critical periods in brain development, he states that, experience-expectant brain plasticity does not make specific demands relating to experiences or environments. Thus, one cannot use this as a guide to the selection of particular toys, nursery provision, or childcare policies. Rather, children develop their fundamental sensory-motor and language skills through the kinds of experiences, which can occur in their everyday environments (Bruer 1997).

What is evident from neuroscience is that 'normal' brain development in early childhood is dependent upon environmental input and, for parents and carers, this means warm and loving, appropriate interaction with children who are living in a safe context, in which they are nourished and nurtured and allowed opportunities to explore. Gopnik et al (1999) summarise evidence from research in philosophy, psychology, neuroscience, linguistics and other disciplines to provide an account of how babies and young children learn about the world around them, about people and relationships, and about language, linking their discussion to what is known about brain development. They assert that we know from science that nature has designed adults to teach babies, just as much as it has designed babies to learn and that it indicates we should talk, play, make funny faces, and pay attention to our babies when we are with them – but that we simply need the time to do this (Gopnik et al 1999).

So it would appear that research from a number of disciplines informs us that babies and young children need to play and interact with their parents and other significant people in their lives, because it is in these enjoyable everyday exchanges and conversations that their brains develop – are 'redesigned' even – as a result of learning. However, in a society where parents (and other family members) may have less time to spend in the home, their children could be losing out on the quality time that can be spent doing just those very simple activities on which their brain development can thrive. Added to this are the pressures of poverty and socio-economic disadvantage, which may give rise to depression in parents. Population

studies (Richman 1978; Richman et al 1982) found that as many as 20-40% of British mothers were suffering from depression (although not all sought medical help), and that depressed emotional states adversely impact upon parent-child relationships because mothers are less likely to stimulate their babies and children. (See Goleman 1996; Kendall 2002 for a summary of evidence on the effects of maternal mental health on development in the first twelve months of life.) The research seems to indicate that we need to ensure parents have support when they need it, that they have time to enjoy being with their children, and that they feel assured that when they are at work, their babies and children are still enjoying interactions with other key adults and children. Some of the main messages for parents, early years practitioners, policy makers and researchers about the changes in thinking about early brain development and function can be found in Shore's summary of the differences between 'old thinking' and 'new thinking' about the brain, which has been adapted for Figure 2 below.

Figure 2: An adaptation of Shore's (1997) chart of 'old' and 'new' thinking about the brain

What we used to believe	***What research seems to indicate***
Brain development depends on the genes you inherit.	Brain development occurs as a result of a complex interweaving of one's genetic potential and experiences.
Experiences before the age of three do not influence later development very much.	Early experiences affect on the 'design' of the brain, and influence the nature and extent of adult capabilities.
A secure relationship with a primary care-giver is what provides a positive context for early development and learning.	Early interactions impact on the way the brain is 'wired' as well as creating the context for development and learning.
Brain development is linear: in other words, knowledge is gained by a process of accretion throughout life.	Brain development is non-linear: at certain times there are 'sensitive' periods at which conditions for particular kinds of learning are optimal.
Young children's brains are much less active than the brains of adolescents and adults.	In the early years children's brains are much more active than are adults' brains, high levels of activity have reduced considerably by adolescence.

Finally, one area of debate about brain development concerns the question of male/ female differences and their implications. As long ago as 1972 Corinne Hutt, in her book *Males and Females*, discussed the action of adrenalin, which she suggested as activated by the presence of male Y chromosomes, in the very early stages of the growth of a foetus. Some of the main effects of this were thought to be (in general) higher levels of aggression and easier arousal to aggression and other risky activity in males compared with females, and more generalised brains in females, with stronger connections between the two hemispheres. Naturally these are issues that need to be addressed and debated, because whether or not a

society overlays these reported propensities to maximise or minimise them, has implications for the way the society functions and raises its young.

What is the difference between brain and mind?

Astington's (1994) fundamental interest is in the development of a theory of mind and, in explaining the research that developmental psychologists undertook in this area in the late 1980s and early 1990s, she begins by considering how the mind can be explained and defined. Astington states that the answer lies in 'everyday, commonsense psychology' or 'belief-desire psychology' which refers to the ways in which a person explains and predicts another's actions by thinking about his or her 'beliefs, desires emotions and intentions' (Astington 1994: 2). Astington adds that thoughts and feelings (or states of mind) originate in the brain but she differentiates between the two, saying that the mind and the brain are not one and the same (Astington 1994: 3). She also discusses philosophical ideas about the mind's existence, as does Greenfield (1997) who differentiates between mind and brain and reveals that the 'seemingly individual and unchanged mind is completely at the mercy of the physical brain' (Greenfield 1997: 84). In her concluding thoughts, she adds that the mind may be, 'the evolving personal aspect of the physical brain' and 'consciousness brings the mind alive' (Greenfield 1997: 149).

Gopnik et al (1999: 175) devote considerable attention to the mind / brain synthesis. They argue that it is by studying babies' minds that one studies their brains most productively. However, they devote individual chapters to *Children's Minds* and *Children's Brains* in their highly informative book reviewing research on babies' thinking. They also draw an analogy between the human mind and a computer, and say that little is known about how we feel conscious experiences, but it is known that early in life babies can translate information from the world into rich, complex, abstract, coherent representations. They suggest that because babies are born with brains that are equivalent to computers already set up and running, those representations allow them to find meaning in their experiences and to predict future events (Gopnik et al 1999). Scientists are themselves in different minds about whether there is a difference between brain and mind. Maybe if we use a computer analogy we can, for now, think of the brain as the hardware and the mind as the software.

The brain, attunement and autism

Attachments or emotional bonds formed between children and other people have been shown to be partly 'environment-expectant' (genetically programmed) and 'environment-dependent' (requiring external stimuli) (see chapter 3). This does, of course, have implications for a variety of issues relating to the feeling and expression of emotions. The part of the brain responsible for emotional and social responses is located in the amygdala, which, if damaged, leads to profound emotional changes in a person. Eliot

(1999: 293) reports that 'amygdala damage or dysfunction is one of the leading hypotheses to explain autism'. Trevarthen et al (1998: 82) concur. They state:- 'In nearly every case of autism, when appropriate techniques are available, some abnormality in the brain can be found.' Whereas other children learn to imitate from birth onwards, and through this begin to develop a sense of empathy, autistic children are far less likely to imitate others (Eliot 1999).

Goleman (1996) reports that Stern believed healthy attachments between infants and their mothers are based on a more active contribution to emotional relationships than pure imitation, and are *environment-dependent*. He defined this active participation in exchanges as *attunement* and argued that the prolonged absence of attunement takes a tremendous emotional toll on the child. Children with autism, however, also have a biological deficiency that makes attunement difficult or impossible. Baron-Cohen et al (1985) devised a series of tasks to test autistic children and found that the children not only were unable to recognise the mental state of surprise in another person, but they also were unable to attribute a false belief to another. The compelling evidence suggested that the autistic children appeared not to develop a theory of mind in the ways non-autistic children do. Astington (1994) explains that, are unable to dissemble, to lie to others, they cannot distinguish between reality and 'appearance' – in other words they are very like three year olds in some ways. But, they do not pretend, finding imaginative play impossible to understand, nor can they comprehend the difference between real objects and mental images – in this respect, they are unlike three year olds (Astington 1994).

Brain development, memory and the importance of narratives to mental health

The director of the American Center for Human Development, Daniel Siegel (1999), whose work as a paediatrician and psychiatrist focuses on individual, family and community development in the area of human relationships and their links with biological processes, explains how memory develops in early life, with firstly the *implicit memory* being rooted in movement/ behaviour, emotions, and perceptions. Between 12 and 24 months of age, the part of the brain– the hippocampus – which provides for the second form of memory, matures somewhat. Then *explicit memory* develops, enabling recall and a sense of the self that includes knowing about one's past. Siegel claims that narrative, which he sees as essential to healthy emotional development, depends on both types of memory. In constructing autobiographical narratives – stories about ourselves which help us make sense of our lives – we use *autonoetic consciousness*, the ability to 'time travel' in our minds, which Siegel suggests becomes available to children in their third year of life, when the part of the brain known as the orbito-frontal cortex becomes capable of mediation of this process. .

Narratives are thought to rely on memory that is consciously accessible, but they are also influenced by the memories stored implicitly. Perhaps one reason why story telling is so attractive to human beings is that we have the ability to draw on these implicit memories, which have been hidden from us, and they are often emotionally charged. Narratives can have the effect of helping organise the mind, but they can also shape self-regulation because in developing them we seek coherence. Narratives require the involvement of both halves of the brain, the right – said to deal with imagery and the left with 'making sense'/ logic. So in narratives the left hemisphere, which seeks to make sense of cause and effect, interprets and shapes the images conjured by the right hemisphere. According to Siegel (1999) the right hemisphere grows more rapidly and is more active than the left in the earliest years of life. But by age three the two hemispheres have developed sufficiently to allow the transfer of information across the brain and by age four children are well able to use words to tell others about their inner feelings and inclinations. Siegel claims that narratives are a fundamental aspect of integration, our ability to create a coherent internal interpersonal, family and community experience. Narratives are also important because they help us make sense of other minds – after all, that is essentially what narratives/ stories are about. Effective interpersonal relationships and secure attachments depend on emotional attunement, sharing in the construction of narratives, memory talk and dialogue involving reflection and collaboration to repair disrupted interactions. Bilateral integration, the process whereby both hemispheres of the brain engage in information processing to ensure adaptive, coordinated functioning, promotes coherent narratives, which, according to Siegel are a mark of mental health.

Summing up the implications of brain research for ECEC professionals

In summing up her explorations of brain research, Meade (2001) pondered on the role of play for brain development. She suggests that play is important because

- All types of development are practised…it affords appropriate experience for different regions of the brain.
- Play seems to have a relationship with the blooming of synapses.
- Play of the kind where children's interest and motivation are optimal seems to have a relationship with the sculpting of the brain … these sculpting activities occur when children have care-givers who are attuned; activities where the children display most interest may optimise synapse stabilisation …because there is likely to be repetition; selection processes as to play topics …will activate the prefrontal cortex and limbic system and therefore conscious memory; synapses associated with experiences not chosen will begin to wither away…when play is limited, fewer modalities are active and emotions linked to motivation adversely affect brain function – so child-centred, play-based programmes are important.
- Children usually display high levels of motivation in play.

- Play seems to help lay down implicit memories of skills, dispositions and schemas.
- Play in a complex environment affords children lots of opportunities to satisfy novel preferences. (Adapted from Meade 2001: 22-24).

Additionally, Meade draws attention to children's need, among other things, for opportunities which allow them to develop theories about themselves and other people. She advocates that educators should be warm, responsive and capable of fostering young children's brain development through appropriate play activities.

Further key messages from the research are that young brains are exceptionally 'plastic' so they are shaped by experience and the plasticity allows for catching up if development and learning are hampered in anyway. However, they are also incredibly active and thirsty for interactions and activities which will foster further learning and brain development.

Emotional Well-Being

Being special to someone

In chapters 1 and 3 we outlined research on the importance of 'being special to someone/ mattering'. Here we look further at these aspects of early development and learning, through some of the studies which inform us about emotional well-being.

In a rigorous research study in the USA, the NICHD Early Child Care Research Network (1996) observed 576 babies in five different types of ECEC settings, making the first observation when the baby was within two weeks of being 6 months old. The aim of the study was to tease out the characteristics of settings contributing to 'positive' care-giving – defined in terms of sensitivity, warmth, and being cognitively stimulating. They identified the structural aspects of the settings (for example, ratio of adults to children, safe environment) as well as qualitative characteristics (for example, stimulation, staff attitudes and approaches). The team found that the main factors associated with positive care-giving were:- low adult-child ratios – the closer the ratio is to one adult per child, the higher the probability of the adult being sensitive to individual children and thus fostering attachment (this factor is consistent with findings about ratios for toddlers by Clarke-Stewart et al 1994); practitioners having non-authoritarian beliefs about child-rearing – such workers tended to have a higher number of positive interactions with children; the physical environment being clean, safe and uncluttered and having appropriate materials for play and interaction for the age group. What is special about this research is its inclusion, for the first time in such a study, of informal care by other family members (fathers, grandparents, nannies). The researchers state that it was the inclusion of this form of care, which increased the levels of their results related to sensitivity and stimulation.

Another American in depth, observational study (Galinsky et al 1994), which focused solely on children in home-based care (with a childminder or member of their own family), issued a warning that, in the USA, children from low income families were more likely to be in care which gave cause for concern. They found that parents choose providers who are similar to themselves in income and ethnicity. These researchers reiterated results like those of the NICHD study outlined above – that carers need to be 'committed, caring, open to learning, and purposeful about the important work of being a family child care provider.' (Galinsky et al 1994: 96). As a result they recommended that public bodies should not push reluctant workers into becoming childcarers; that there should be investments in advocacy and education about ECEC; that government and businesses should fund childcare training initiatives and help families pay for childcare; that family childcare providers should be entitled to access to resources enabling them to provide stimulating learning experiences; there should be associations to offer social and technical support to family carers at national and local levels; that any regulatory system should be provider-friendly and inspection visits random and rotating.

One important finding from this extensive study was the fact that the children's mothers, when interviewed in focus groups, expressed their most essential requirements of a practitioner to be exactly those listed by the NICHD team – warmth, attention to the child, cleanliness and communication (with both the child and themselves). Sadly, this study found only 50 per cent of the children to be securely attached to their childcare providers but they were no more likely to be securely attached to a carer who was a relative than a non-relative. This figure of 50 per cent tallies with that found by Howes and Hamilton's (1993) study of children in group settings. Galinsky et al (1994) concluded that the best way of ensuring children become attached to their carers (seen as an essential pre-requisite of effective provision; see also the section on resilience in chapter 1 and discussion in chapter 3), is by drawing into ECEC only those workers who want to learn more about being a care-giver, are intentional in their approaches and above all are committed.

In a longitudinal study of 354 parents and their firstborn infants, Laucht et al (1994) examined the relationship between children's development and parental psychopathology (mental illness). They compared the social-emotional and cognitive development of the children at two years of age, comparing them with a control group, and found that the children of the mentally ill parents displayed more behavioural problems and poorer language development. There were differences, however, depending on which parent was ill. The effect of mothers' mental illness impacted on both socio-emotional and cognitive development, whereas the impact of fathers' mental illness appeared to be confined to cognitive functioning only.

In addition to the physical health problems associated with low birth weight (see further discussion later in this chapter), Weiss et al (2001) suggest that the tactile experiences of low birth weight babies, how they are touched and handled, whether they are being accepted – or not – by their parents, may have longer term effects on their social adaptation and may be linked to emotional and behavioural problems at two years of age.

Nancy Boyd Webb (1984) investigated the relationships of young children who had experienced multiple-care in their earliest years. At the time of her research they were aged between four and six years, but some had had more than twenty carers to cover while their parents worked long hours outside home (all the children in her study had both parents living at home). Those children who were coping well and thriving were found to have three aspects of their lives in common. These were:- *bugging and nudging* – parents' positive 'nagging' encouraging them to display some special ability – for example 'Sing that song for Grandma'; *pet names,* which seemed to act as a binding function – and of course use of full names to indicate disapproval showed parental expectation and 'investment'; finally, *idiosyncratic behaviour*, meaning shared rituals that the child or family members have evolved, such as the reading of certain favourite stories or food, promote intimacy. Such behaviours are kinds of narratives that families and children co-construct, so one sees echoes of Siegel's work in the very practical research applications of Boyd Webb's research.

In the Framework *Birth to Three Matters* the development points for *Emotional Well-Being* are as follows:-

- Young babies are primed to become social beings. They crave close attachments with a special person within their daycare setting.
- Warm, mutual, affirmative relationships give babies the courage to express their feelings.
- When young children have a close relationship with a warm and responsive adult, they explore from a safe place to which they can return.
- As children learn to do things for themselves they gain confidence, knowing that the adult is close by, ready to support and help if needed.

However, poverty and other factors which impinge on family life, creating stress for parents, can also impact on children.

The effects of poverty on mental health

Links with low socio-economic family status and poor living conditions were frequently found among children needing treatment for mental health problems (Goodman and Scott 1997). Children with behaviour problems have also been found to be more likely to come from disadvantaged families, especially those resident in neighbourhoods where the majority of families share their low socio-economic status (Kalff et al 2001). A clear difference in the prevalence of mental disorders in children was found between different

socio-economic groups. Children in the lowest socio-economic group were five times more likely than others to suffer from a conduct disorder (Bradshaw 2001: 202).

The effects of parental separation and divorce

Research which claims ill-effects of parental separation and divorce (see for example, Fürstenberg and Cherlin 1991) is countered by qualitative research from Sweden (Berg 2001) which argues that how the family handles the split, and how a society perceives family break-up are guiding factors in whether the children will be negatively affected in the long-term. In other words, Berg claims that children can cope well with separation and divorce if the social context is supportive and accepting rather than negative and condemnatory. Clearly there are other factors which will influence children's long-term well-being that are often present in divorce situations, such as the incidence of poverty among one-parent families and the absence of positive male role models. The impact of parental separation on young children's health, in cases of domestic violence, is also a serious cause for concern (Webb, E. et al 2001). A study by Cochran et al (1990) found that where the involvement of other adult male relatives and friends was encouraged, children in general, but particularly boys, showed positive gains in relation to social and academic abilities. (However, it must be noted that the children in this study were mostly over three years of age.)

Emotional abuse and its effects

Emotional abuse, as well as being recognised in its own right, is usually involved when children are subjected to any other form of abuse, be it physical abuse, sexual abuse, or neglect. Indeed, the scars of emotional abuse will be those that often remain after the other abuse has ended. However, an examination of the statistics for referral show that emotional abuse appears less prevalent than other forms of abuse. This may be because it is difficult to pinpoint, although in babies *failure to thrive* **may** be an indicator in some cases, associated with a lack of sensitivity to a particular baby's needs, embedded within a range of complex interactions involving physical problems, family relationships and inappropriate interventions (Underdown 2000). However, Herbert (1999) stresses the dangerous issue of inferring a causal relationship with hindsight. Apparent links may mean events were coterminous but may not mean that one actually caused the other. For example, when maternal rejection is a main feature of a relationship, it is quite often expressed in rough, hostile feeding patterns, which can result in a child avoiding food.

A baby who is abused may also show signs of being hyperalert, overly aroused or anxious and emotionally numb (Davies 1999). As discussed earlier in the section on brain development, the neural pathways which control these aspects of self-regulation will be strengthened through high levels of use. Further, Perry (1994) suggests that as a result of constantly expecting

danger, the constraint and emotional impairment involved will also have a negative effect on a child's cognitive development.

In young children a failure to gain weight commensurate with height (thus falling low on a centile scale) might be a sign of a child's distress. As with most of the signs and symptoms of child abuse, careful interpretation tempered with experience is essential (David 1993; David 1993a; Powell 1997).

Growing and Developing

Physical well-being - growing bodies: gaining control and acquiring physical skills

Baby It's You, by Karmiloff-Smith (1994) is a text and photographic account of children's development during the first three years in England, produced to accompany a television series of the same name. There is not the space in this review to cover physical development in the same detail, so as well as directing readers to that book and others, this chapter signals up the significant points in physical growth in these earliest years and indicates experiences which, according to research, seem to enhance or constrain healthy bodily development. In particular, the adeptness, capabilities and determination associated with babies and young children as they seek to satisfy their curiosity and take part in family life will be stressed.

In the first few hours after birth, adrenalin levels are higher than those of someone suffering a heart attack – this is a natural 'safety measure' to help the baby cope with the trauma of being born and to ensure all the baby's bodily organs, now functioning independently for the first time, do so effectively. Following this bout of high arousal, the baby will sleep, and sleep becomes the main preoccupation, followed by feeding, for the early weeks of life. Babies are born with reflexes, physical actions, which occur automatically, most of which will form the basis for later physical abilities. Hearing is almost as sensitive as that of an adult and babies are usually soothed by the familiar sounds they heard while in the womb (mother's voice, mother's heart beat, familiar music, etc). Their vision is less acute however, limited to about a metre away and with a distance of 20 to 25 cm their best focus. Newborn babies are attracted to moving objects and they seem to arrive with a simple 'model' of the human face, to which they are also attracted (Davies 1999; Karmiloff-Smith 1994). They also become very adept at recognising facial expressions and tone of voice, indicators of emotion, during their first year of life (Nelson 1987). Taste and smell do become more refined but smell is acute enough at birth to mean that a baby can identify its mother's milk when three days old (Hoffer 1975) and parents' natural odours become preferred to others. During these earliest weeks babies are intensely interested in what or who is around them but they cannot remove their attention without the help of an adult – once locked onto a face or an object, they remain fixed upon that. By three or four months old, however, they begin

to be able to have more control, their brains have developed, connected up enough, to enable them to choose what to look at – or not. This shift from reflex-like behaviour to voluntary actions is linked to the development of the area of the brain called the cerebral cortex. Having experiences is essential to brain development – and brain development is essential to taking advantage of those experiences. As Karmiloff-Smith (1994) points out, through the interchanges between their brains and their experiences and behaviour, babies are progressively building up 'mental representations'. For each of them, it is through this complex process that the brain is gradually turned into an individual mind.

Human babies are helpless for a very long period compared with other animals, but it is this that allows for the extensive plasticity of the brain, equipping them to reorganise, adapt and learn from others.

Babies' arm and leg movements, when they are lying on their backs, although seemingly random, are a way of practising, strengthening muscles. The first physical milestone is probably being able to hold up and move one's own head. This may be followed by rolling, sitting alone, crawling, standing, and finally walking, after a period of mobility made possible by holding on to people and furniture. With each new ability, the baby sees its world in a new and different way. Again, these experiences are important not just for gaining physical control and developing coordination, they actually affect brain 'wiring' and this again in turn influences what the baby can do physically. By being allowed to explore through movement, babies 'map' their spatial surroundings, making mental images of a place, feeling secure when they know the location of their parent or familiar carer within that 'map'. So it is important to ensure that children who have movement difficulties are enabled to explore through whatever means are available to them.

Further it is important to note that infants who have a restricted ability to move independently, either physically due to, for example, cerebral palsy or motivationally through something like Down's syndrome, may develop perceptual difficulties which later effect educational progress, particularly in reading or maths (Wilson 1998). Babies and young children need to move not only to gain knowledge about their environment and become oriented, but also to gain knowledge about their own abilities and to enjoy the feeling of independence. Further, movement itself has its own rewards (Davies 2002). Parents and carers can help children gain a sense of control through safe explorations, as Selleck and Griffin point out:-

> 'Physical care and loving attention is required in different ways as a toddler becomes mobile. … exploratory behaviour … takes the child away as she crawls, walks and inspects the world around her. The educator is required not only to protect the child through closeness, but

> also to let go to encourage growing autonomy.' Selleck and Griffin (1996: 157).

Naturally nutrition as well as activity is important here because the baby is growing bone, muscle and other tissue. However, activity and its relationship to well-being is the focus of work by Goddard Blythe (2000) and Nuttall (1999). Wendy Nuttall argues from the point of view of the Alexander Technique, that placing emphasis on long periods of sitting relatively still without freedom of movement had had a noticeable effect on children's posture. She adds that the 'slumped and hunched posture' of the children is noticeable and that they 'come up' when engaged and collapse down again when not engaged or when chastised. Her observations were mainly with slightly older children in classrooms but she found a high level of physical stress, which should alarm early years practitioners and which has messages for those who work with the children in younger age groups.

In addition to this, researchers have explored whether being mobile influences cognitive development, or understanding of the world, and it seems that being able to look at the world from different angles does improve other aspects of development (Karmiloff-Smith 1994). However, researchers at the University of Dublin (Garrett et al 2002) recently found in a study of over 170 children, that a group whose parents or carers placed them in baby-walkers from around six moths old were slower to become independently mobile than babies who were not put into walkers – they were also said to have more accidents. While their research has been challenged in the same edition of the BMJ, the research team members are continuing their study to find out if experience in a walker enhances or detracts from progress in other areas of development and learning.

Research has shown, surprisingly, that even very young babies can translate from one way of perceiving (say sight and touch or taste) to another. Meltzoff and Borton (1979) gave three week old babies differently shaped dummies and they found that after they had sucked on the dummies without being allowed to see them, the infants spent longer looking at the type of dummy they had sucked rather than the other. So having opportunities to explore the world through the different senses also seems to be important.

Using hands and mouth to explore the world is also important. Two important abilities usually become part of a young child's physical repertoire at around 12 months old. Being able to bring two objects together so that they meet one another is the first – in fact 'clapping' is an example of this and clapping games and songs may help in its development. When picking things up and handling objects, acquiring the ability to use the pincer movement which is exclusive to humans, a baby is practising, so that by the age of two years, s/he will be proficient in hand use in whatever ways are expected in the familiar family or community group, although feeding oneself may take a little

longer (Karmiloff-Smith 1994). Using 'tools', whether that be a chair to stand on to get at a desired object, or brushing one's hair, very quickly become part of a child's accomplishments. This shows that the child is physically able to use the objects but also that they are able to memorise what they want to do, remain focused, plan how to use the tool and so on, which means that different areas of development and learning are being used together. What also helps is the fact that the child no longer has to focus on the physical task involved, for most children this has now become unconscious and other aspects of interactions or their environment can be explored without having to concentrate on posture or balance. So, for practitioners one clear message is:-

> 'The most important factors for healthy development are that you should recognise the skills a child has developed and provide plenty of opportunities to practise them.' Bruce and Meggitt (2002: 139).

Issues related to physical development

Breastfeeding is cited by Professor Helen Roberts (2002; 2001a) as the most effective way to bolster the health of babies. Bonati et al (2000) report on the protection afforded by breastfeeding but add that breastfeeding is linked to income (see also BMA 1999). They note the complexities of poverty and health, education and social services, claiming that the well-being of poor mothers and children worldwide would be improved by increases in breastfeeding. A study carried out in Australia by Rossiter (1998) urges cultural sensitivity, particularly with refugee families, whose traditions on breastfeeding may differ from those of the dominant culture. Black (1989) also reminds practitioners of the sensitivity needed here, as in some cultures breastfeeding is not begun until the baby is a few days old, so mothers who wish to follow this tradition should not be assumed to be rejecting breast feeding. However, Roberts (2002a) argues that English society is still not conducive to breastfeeding, citing even GPs' surgeries as failing to provide appropriately for this possibility. As this review indicates in the section on poverty, mothers from disadvantaged income groups are less likely to breastfeed than those from more affluent groups in society, despite the claims of medical research indicating the advantages to babies of being breastfed.

Roberts adds that many measures during the last 100 years have improved children's survival rates – for example, immunisation, begun in 1940 has had a dramatic impact on death through infectious diseases; low birth weight, associated with many later problems, has declined; and deaths in the first year of life for both boys (who are at greater risk) and girls halved between 1971 and 1991. But even in relation to these statistics there are socio-economic class differences, as we report later.

Improvements in medical skills also mean an increase in the survival rates of children born with special needs compared with a few decades ago. While their survival rate should be met with joy, the extra cost of support and other

implications for their families, siblings, children themselves and their communities (both local and national) must also be acknowledged. As we pointed out in chapter 1, children who inherit medical conditions or disabilities can demonstrate resilience and develop strengths, which they use to inform society and support younger children in similar situations (Mason 1992; Mason and Davies 1993). Yet for some children, a kaleidoscope of problems in their families, their home environments and related to their own birth weight, appears to link with their displaying developmental delays and behaviour problems (Feldman et al 2000).

In other areas of children's lives directly related to health, such as nutrition, Graham's (1984) research showed that food is associated with affection and love, and that both children and adults use food as measures of commitment. If the foods used to this end are not those which provide the best diet, it can be hard for those involved to change this pattern of eating. Nevertheless, the Joseph Rowntree funded study *Food Projects and How they Work* (McGlone et al 1999) has indicated that access to cheap, nutritional food helps towards improving purchasing and eating patterns. The Government's provision of vouchers should help in this respect. This is especially important because recent surveys of the diets of children aged between birth and five have shown the inadequacy of babies' and young children's fruit intake, and that those in low income groups were 50 per cent less likely to eat fruit and vegetables than those in the higher income groups (BMA 1999). Further, vitamin D contributes to building strong teeth and bones and its lack is implicated in rickets. Research by Lawson and Thomas (1999) indicates that there are concerns about Asian (Bangladeshi, Indian or Pakistani in origin) children, since, in their study, many two year olds had levels of vitamin D below the level thought necessary to prevent physical problems.

The British Medical Association (BMA 1999) report on a 16 year study by the Medical Research Council. They state that nutrition has a proven effect on cognitive development and that this effect was particularly pronounced in boys. In addition they review a meta-analysis of research on the effects of eating breakfast on cognitive functioning, concluding that the omission of breakfast seems to alter brain function.

Being born pre-term

In a study of 36 three year old children, of whom 18 had been born pre-term, Walker (1989) found the pre-term group had more problems, such as sleep related difficulties, temper tantrums and being overly dependent. As one might expect, Walker argues that since there was no evidence of neurological delay, these behaviours may be the result of parental management, rather than intra-child problems. Parents are naturally more anxious about babies who have been born pre-term and who may have been kept in hospital during their first weeks of life and may result in parents being unable to set appropriate limits on their children's behaviour. Similarly, Walker's finding

about higher levels of separation anxiety seem likely to relate to 'vulnerable child syndrome' resulting from a continuation of parents' early fears for their child's life. But can this account for Walker's finding that children from manual socio-economic groups display significantly more behaviour problems than those from non-manual groups? Walker's research also found that mothers from manual groups had significantly poorer mental health and this finding ties in with those of other earlier studies (eg. Richman 1978; Stevenson 1985) which found strong associations between disturbance in children and mothers' depression. However, Walker did not find that those mothers with mental health problems were the ones who had children with behaviour problems. In her study the mothers' depression tended to be related to a recent event (such as bereavement) and most were not expected to be of long duration. Thus Walker's study suggests that parents of pre-term children need advice and support, for example from health visitors, but that other remedies are necessary to break the link between low socio-economic status and children's behaviour problems.

Poverty and its effects on bodily health

Numerous ill effects have been reported as linked to poverty for babies and young children. Firstly, it was recognised years ago that poverty impacts on the mother's health, so children are affected even before birth (Townsend and Davidson 1982). Higher infant mortality rates are also linked to socio-economic disadvantage (Spencer 2000) and although infant mortality rates have reduced in the 'developed'/ minority world, the higher rates are still found among the less affluent (Leon et al 1992; Pearl et al 2001). Smoking, risky levels of consumption of alcohol and caffeine, and other (socio-economic) factors are found to be more prevalent among poorer sections of society and it is among these families that *low birth weight* (LBW) is found most frequently (Spencer et al 1999). In fact, according to Spencer (2000), death among babies under one year old is said to be the most sensitive indicator of the health of a population. In England and Wales, *Sudden Infant Death Syndrome* (SIDS) is three times higher in the lowest socio-economic group than in the highest (Basso et al 1997; Woodroffe et al (1993); Zimmer-Gembeck and Helford 1996). Babies with a birth weight of less than 1.5Kg have a risk of death that is 200 times higher than that of those weighing 3 Kg or more(Haddad et al 2000). Further, lone mothers, among whom the incidence of smoking is higher than for any other group, have double the risk of having a baby with a low birth weight compared with more affluent mothers (Leon et al 1992) and to experience sudden infant death syndrome (Blair et al 1996; Haglund and Cnattingius 1990). Barry and Kirke's (1997) research showed that mothers who are better educated are more likely to take folic acid during pregnancy to help promote healthy growth in the womb and that higher infant mortality rate is also linked to inherited and congenital difficulties such as heart disease. If the baby lives in a disadvantaged neighbourhood, then this compounds the other factors (Reading et al 1994; Wasserman et al 1998). Teenage mothers are three times more likely than older women to

have a premature baby or stillbirth (Smith and Pell 2001). In the Netherlands, the highest infant mortality rate is found among ethnic minorities (Van Enk et al 1998).

Diet is a further factor indicating discrepancies between more and less affluent families. Firstly, breastfeeding, which can provide protection as well as appropriate nutrition in the earliest months of life is less prevalent among families in disadvantaged circumstances (Martin et al 1987). Foods high in calories but with little nutritional content form the diets of more children in lower socio-economic groups than those living in families that are better off and these same children are less likely to have adequate physical activity according to Kinra et al (2000). However, another study by De Spiegelaere et al (1998) found no link between lower socio-economic status and children being unhealthily overweight (obese).

While it might be thought unlikely that children under three would be out in the street alone, their chances of being injured in a road traffic accident are much higher for those living in disadvantaged families and areas than for the more affluent. The same is true for other injuries sustained by children (Hasselberg et al 2001; Roberts and Pless 1993; Roberts and Power 1996; Spencer et al 1993; Walsh and Jarvis 1992). Among preschool children the accident rate is higher among those from single parent households, or one where the mother is unwell, than for children living with two healthy adults (Wadsworth et al 1983). Children living in temporary accommodation, in refuges for example, have a very high injury rate according to Webb,E. et al (2001).

Children's health is also threatened by the conditions in which disadvantaged families often live. Risk from atmospheric pollution and poor nutrition are associated with household disadvantage (Gordon et al 1999; Koopman et al 2001; Martin et al 1987). Similarly inferior housing is linked to children's rates of illness (Fall et al 1997; Patel et al 1994; Polnay and Hull 1998; Thompson et al 2001). At the same time, it is reported that the number of visits to GPs' surgeries may represent only the tip of the iceberg in this respect and are not a good measure of rates of infection and illness (Baker et al 1998). In fact this situation appears to show that there has been little change since Sir Douglas Black's report (Black 1980), which stated that families from low socio-economic groups are less likely to use preventive or screening services than those in higher socio-economic groups.

Lynch (1998), welcoming the recent Acheson Inquiry into Health, sees the report as an opportunity to influence policy to improve the health of the nation throughout childhood and into adult life. The key points from the Framework *Birth to Three Matters* to be borne in mind here are that:-

- Young babies thrive when both their nutritional and emotional needs are met.
- For babies and children, rest and sleep are as important as food.

- Young children have a biological drive to use their bodies and develop their physical skills.
- Children only gradually gain control of their whole bodies.

Keeping Safe

Self-regulation and internalising rules

In the earliest months of life a baby is becoming paradoxically, at one and the same time, more alert and more settled, having bodily rhythms to which a sensitive adult will respond, creating an effective context for growth, development and learning (Davies 1999; Emde et al 1976; Stern 1977). According to Davies (1999), during the first three months of life, regulation is about those body rhythms and about regulation of arousal. Parents and carers help babies to establish patterns of sleeping and wakefulness, as the child's own mechanisms (such as the circadian rhythm regulating wakefulness during hours of daylight) begin to take effect. Parents and practitioners who are responsive and predictable foster a baby's awareness that comfort and food can be depended upon within a certain time frame but it is the carer's responsibility to lay the groundwork on which the later ability to cope will rest. Thumb sucking or using a dummy independently are early strategies to deal with waiting or anxiety, until an adult dependably satisfies the need causing arousal. Turning away when aroused to the point of distress is another self-regulatory mechanism. Illness or being premature can mean that a baby's central nervous system, implicated in this ability to begin to be an active participant in this self-regulation, may be underdeveloped and self-regulation may take longer in such cases (Minde 1993). (See chapter 3 for further discussion of the importance of sensitive, affectionate interaction and the development of attachment linked to self-regulation.)

Parents with 'difficult' babies often respond to their infant's irritability in negative ways, rather than adapting to the baby. These parents then end up in a cycle of negative feedback – to both parent and child – which interferes with the process of becoming securely attached (Seifer and Sameroff 1986; and see chapter 3). Adults who repeatedly respond with empathy, affection and emotional support when babies and young children are distressed help children gain positive views of themselves and make them feel valued by others (Barrett and Campos 1987; Thompson 1991).

Adult support during the first three years helps children cope with powerful feelings and fears, and, especially, with frustration at being unable to complete self-chosen tasks. As children become proficient in language they can use this to reduce the strength of their emotions, according to Bruner and Lucariello (1989), since representing the world in thoughts and words begins to give them the power to think about the consequences of an action. Before the age of three this ability will still be rudimentary. Young children will also look at adults to whom they are attached when they know that they are about to break one of the adult's rules (Lieberman 1993), because they can now

recall what gains an adult's approval and disapproval. This finding ties in with the research on brain development which suggests that it is not until 18 months of age that a young child can appreciate that other people have different 'minds' from their own (Gopnik et al 1999).

Being safe and protected

For children under three, it is the responsibility of the adults around them to ensure they are in safe environments. Lindon (1999) provides a useful review of safety issues and discusses the ways in which parents and practitioners can involve children in awareness about their own safety and that of younger siblings or friends. As Lindon says,

> 'Girls and boys need care and supervision throughout the years of childhood when they have a limited understanding of common risks in their immediate environment. There are real dangers to children from household or traffic accidents and considerable scope for responsible adults to reduce the level of preventable injuries and deaths….However,…it is counter-productive to focus on keeping children away from every risk, however slight. We are likely to create a boring environment for them, without challenge or excitement. We also project an image of ourselves as people who block children's interests and curiosity.' (Lindon 1999: 5).

A quarter of a century ago Ainsworth et al (1974) concluded that humans, like other apes, have an inbuilt mechanism for responding to a parent's danger cry. They linked this response of moving closer, or clinging, to the adult (usually the mother) when she signalled imminent danger.

It is not possible to cover further aspects of safety in this text, although road and other injuries are mentioned later in reviewing research on a number of issues.

The numbers of babies and young children in the child abuse statistics indicates to us the seriousness of this issue. In March 1998, 9 per cent of the children on the 'at risk' register were aged under one year old, 30 per cent were aged between on and four (BMA 1999). Generally speaking, parents who subject their very young children to abuse often deny the child's needs, have unrealistic expectations of babies and young children's abilities, are more punitive and less flexible in their parenting (Caselles and Milner 2000). The majority of abused children fail to develop secure attachments (Alexander 1992; Barnett et al 1999; Briere 1992; Ciccetti et al 1988; Crittendon 1992) and neglected children have had little support in developing self-regulation and routines (Egeland et al 1983). Babies who have been abused and thus traumatised do not yet have the cognitive abilities to think about or the language to speak about their experiences. Thus it is suggested they will have developed ways of coping that mean they become hyper-alert as well as numb to emotional involvement, because they can no longer trust.

When young children cannot put their feelings into words they will act out and resort to aggressive and negative interactions. Maltreated children seem to view the world as a dangerous place where they are unloved, and so they have difficulty forming positive relationships. These findings are supported by Crittenden (1992) and Zeanah (1993). Morton and Browne (1998) have reviewed the literature on attachment and child maltreatment, in relation to intergenerational experience of abusive parenting. They too support the view that early maltreatment impacts on the long-term ability to form relationships. School-age children who have been abused when very young tend to be more self-centred and generally have a reduced capacity for empathy (Vondra et al 1989; 1990).

Abused and maltreated children are at a higher risk of school failure and dropping out of school later in life. They appear less motivated to achieve. However, there are differences linked to the outcomes of different types of abuse, with neglected children, who are often rejected by their peers, having the poorest academic achievement, and rarely displaying joy, humour and emotional reactions (Eckenrode et al 1993; Haynes-Seman and Baumgarten 1998; Kurtz et al 1993).

> 'Listening to young children through observing their play and talking about their drawings has a particular significance for those working with children who have been abused, neglected or traumatised…play is a powerful means of developing a relationship with a child and providing opportunities to observe the child's concerns and preoccupations.'
> Pugh and Selleck (1996: 123)

Important measures (Lier 1997; Lowenthal 1999) to prevent abuse and to promote resilience in the earliest years include:- the availability of alternative care-givers; local support networks and informal support systems for parents (other family members, friends) (Barnett et al 1999; Kotch 1997); formal support systems, such as home visiting (Barnett et al 1999) and intensive parent education programmes (Whipple 1999); training projects for early years workers (Culp et al 1991; Daro 1993). The NSPCC's (2000) recent guide for practitioners includes data on the nature and prevalence of abuse, family risk factors and sudden infant death. It provides guidance for parents and professionals. Since a baby in the UK under one year old is four times more likely to die at the hand of another human being (Butler 1996) than a person in any other age group, knowledge about babies and children and the prevention of abuse is vital for parents and professionals.

In some cases, children displaying disruptive and apparently hyperactive behaviour, or extremes of hyperactivity and periods of being very withdrawn in an ECEC setting may alert staff to domestic violence. The abuse may be 'indirect' and in families where another child is the focus of that violence the Children Act 1989 's grave concern category may be invoked.

Current research (Cox forthcoming) indicates that parents of older children place paedophilia as one of their greatest concerns. Yet West (2000) argues that such anxieties are fuelled by press sensationalism and that the statistics used are misleading, since criminal statistics do not confirm an escalation.

Research on interagency practice (Taylor and Daniel 1999) in Scotland reveals a possible gap between the responses of health and social care professionals. These researchers state that although there are known to be links between neglect and emotional abuse and failure to thrive, some practitioners are not recognising the potential risks for some of the children who are not thriving. Tite (1993) found that early years practitioners in Canada would often fail to call on other professionals in abuse cases where they believed they could support the parents and help them overcome their difficulties. While Walsh (2002) in Australia has argued that early years practitioners are often marginalised by other professionals. However, as David (1993a) has stated, ECEC practitioners, given relevant information, training and support are the most informed about babies and young children generally and, apart from the children's parents and family, the most knowledgeable about individual children with whom they work. Often staff may have a 'gut feeling' about a child before they become conscious of any signs or symptoms that a child is witnessing or being subjected to abuse. All ECEC practitioners need designated, experienced colleagues with whom they can discuss their concerns in confidence. This is especially important for childminders who may feel isolated and anxious about the child in question and about their responsibilities.

The developmental points for *Keeping Safe*, one of the components of the aspect *A Healthy Child*, include:-

- Young babies make strong and purposeful movements. They tend not to stay in the position in which they were placed.
- Beginning to walk, climb and run with little sense of danger, babies focus on what they want.
- Given opportunities to practise what they can do in safe surroundings, young children learn some sense of danger.
- Children's need for affection, attention and being special in some way makes them particularly vulnerable in relation to keeping safe.

Children who have not experienced warm, loving relationships and who crave affection are often those targeted by abusers. As we have seen in earlier chapters, positive emotional attachments seem to underlie so many areas of human development.

Difficult behaviour and what it may mean

Walker-Hall and Sylva have reviewed what works for families of children with behaviour problems. They argue that studies of children and infants with

problematic behaviour generally suggest these are caused by environmental factors,

> 'of perhaps which parents are the most prominent source. Aggressive fathers…, exposure to violence, high rates of maternal punishment…, mothers with psychiatric conditions…and general marital discord/ stressful home environment…have been associated with conduct problems appearing early in a child's life. …low-quality parenting has repeatedly been associated with behaviour problems… Low-quality parenting is characterised as being inconsistent, authoritarian, lacking in warmth, uninvolved, physically punitive, and not providing adequate care.' Walker-Hall and Sylva (2001: 162).

It appears that some parents are more negative in their interactions with their children, or ignore them until these children learn that it is only by whining that they gain attention and that although this may eventually lead to being smacked, this is preferable to being ignored. The British Medical Association (BMA 1999) state that increasing research attention is being paid to this subject and evidence is accumulating that smacking is not an effective childcare practice. They argue that it can lead to an increase in violent and aggressive behaviour. The first meta-analysis of physical punishment, covering 88 studies shows consistently that while smacking may 'secure children's immediate compliance, it also increases the likelihood of negative outcomes.' (BMA 1999: 128).

Gardner (1994) observed that mothers of children with behaviour problems initiated activities less frequently than other mothers and made fewer attempts to maintain shared activity once begun. These mothers used rigid instructions, or orders, to their children, whereas other mothers used around four times as many requests and engaged in more than three times as much 'teaching' (positive, supportive contingent interactions to help children understand something). Many of the difficult behaviours encountered with five year olds thus appear to have their roots in the interactions children experienced at one and two years of age.

As we have found over and over again throughout this review, babies and young children are primed to try to 'make sense' of the context in which they find themselves and to be responsive to warm, loving adults with whom they have formed their primary attachments.

Thus this leads us to ask, as Rodd (1996) did – what is 'normal behaviour' for children aged one and two, since this seems to trigger parents' unfortunate reactions. Jill Rodd argues that it is important to be informed about children's development during this phase, for example, because

> 'Sensitive early childhood professionals understand toddlers' needs for choice and decision making opportunities. They understand that a two year old might even say no when she means yes and are tolerant of

toddlers' changes of mind. They provide opportunities for toddlers to cooperate by not demanding compliance with a demand but rather by offering simple alternatives for how the needs of the situation might be met. … If children do not feel that they are autonomous and independent beings, they may display developmentally immature and dependent behaviours and will find it difficult to display initiative *later'* (Rodd 1996: 22-23 – our italics).

Healthy Choices

The pointers to *Development Matters* in the *Birth to Three* Framework pack relating to young children being enabled to make *Healthy Choices* is supported by the work of the researchers cited above, this is summed up as follows:-

- From birth, young babies show preferences for people and for what they want to see, hear and taste.
- Babies continually discover more about what they like and dislike.
- As young children become more mobile and their boundaries widen, they make choices that can involve real risk. Adults need to ensure their safety, whilst not inhibiting the risk-taking.
- Children become more aware that choices have consequences.

In the light of the research conclusions outlined above it is important to note the debate about ADHD (Attention Deficit Hyperactive Disorder) and the use of the drug Ritalin (usually with school age children). (See for example Kong 1995; Tillery et al 2000). It would seem that whatever the cause, problems in the early years of childhood may indicate potential for difficulties (such as antisocial behaviour, or mental illness) later in life, according to the BMA (1999). They add that effective interventions in the form of non-stigmatising parenting programmes in which any parent may enrol are proving effective. Examples of voluntary sector support for parents include:- Homestart; Newpin; Pippin; Positive Parenting; Mellow Parenting.

Early intervention studies aimed at improving infant health and well-being: how theories have influenced intervention programmes

A comprehensive study of early intervention programmes, research and theory in the USA (Meisels and Shonkoff 1990), explored different approaches to intervention, and their underpinning rationales. In this collection of papers, Gallagher (1990) explains five different perspectives, which are based on different assumptions, and which form the basis for different programmes. Most programmes adopt approaches based on a mix of these assumptions. The assumptions are:-

- Changing children will change other family members (children with developmental delay may have a negative impact on the family; a family that is in trouble will respond better if the child's needs are being met);

- Providing information and teaching parenting skills can change families (parents may have inaccurate or incomplete information, be frustrated at their own inability to enhance their child's behaviour or learning);
- Personal counselling can change families (people can have negative perceptions of themselves and their abilities);
- increasing parental empowerment can change families (better resources, changing a poor environment, reducing stress and sharing responsibility reduce the impact of an unhealthy context). (Adapted from Gallagher 1990: 543).

In a review of the research evidence on early interventions to enhance the mental health of children and their families compiled for the Mental Health Foundation, Barnes and Freude-Lagevardi (2002) conclude that programmes need to be positive, non-deficit, culturally sensitive, systemic (based on an ecological model) and so matched to participants' needs. Such programmes need to be targeted on at-risk communities, those with high rates of poverty, single and adolescent parenthood, and involve both children and parents, without stigmatising individuals. Their review indicates that both professionals and para-professionals, working alongside families, should share decision making and that both pre- and post-natal interventions, which do not try to operate on too many fronts at the same time, are likely to prove most effective. One of their most telling statements concerns the importance of 'a reasonable satisfying therapeutic relationship' (Barnes and Freude-Lagevardi 2002: 46), which, if not established, cannot be compensated for through lengthy interventions. In other words, rapport between workers and families is essential (Seifer et al 1991).

Fawcett's (2001) review of early childhood interventions related to special needs for the DfES concludes, inter alia:-

- the need to move to a 'joined up' model of delivery
- to build on the model of Sure Start in areas of moderate disadvantage
- to accept that some 'false positives' will be identified, which will later prove the intervention to have been unnecessary
- to build the potential of parents and para-professionals for effective and cost effective identification and intervention
- harness the natural involvement of parents to build parenting skills
- provide for accreditation of prior experience and learning towards qualifications for para-professionals
- provide training for ECEC personnel which bridges the health-education divide
- provide training through a variety of models, including distance and part-time residential courses
- improve interagency communication, understanding and mutual respect
- ring fence funding for identification and intervention for children from 0-2

- fund further research
- disseminate effective practice
- respect children's and parents rights. (Adapted from Fawcett 2001: 11-12).

Fawcett adds that many of her recommendations are already in process because of the Government's initiatives towards early identification and intervention.

The community-based schemes advocated by Caroline Webster-Stratton, which have the potential to restore and benefit disadvantaged communities both psychologically and socially, are lauded by Walker-Hall and Sylva (2001), despite being recognised as challenging. This view is supported by the review of intervention programmes in the USA carried out by Ramey and Ramey (1998). They argue that the interventions most likely to succeed are intensive, high quality and ecologically pervasive. The Rameys offer six principles about efficacy. These are:-

- developmental timing (the younger the child is enrolled and the longer the intervention, the greater the benefits, although there is no evidence of critical periods)
- programme intensity (greater intensity, for example by number of home visits per week etc, produces greater effects)
- direct intervention is more successful than indirect (intervention professionals and para-professionals need to work with the children themselves as well as with parents, although the Rameys stress the importance of celebrating parents' and other family members' contributions as primary carers)
- programme breadth and flexibility (comprehensive and multi-route programmes generally have larger effects)
- individual differences matter (matching the intervention to the child's or family's need)
- the intervention should be ecologically pervasive and maintained (early years interventions alone may not be enough, whole communities, involving local schools for example, tend to be more effective). (Adapted from Ramey and Ramey 1998:115-117)

Many of the Government's initiatives, such as Sure Start, the National Parenting Institute, and the expanded role of health visitors are therefore encouraging developments in the spirit of the Rameys' (1998) conclusions.

Summary of key 'messages'

Practitioners need to be able to:-

- Understand attachment and the importance of a child being special to at least one significant person in order to promote resilience
- Understand children's dietary and physical needs
- Provide opportunities to explore and play in a safe and secure environment; children's mobility and movement are important for their development

- Know about brain development and the importance of 'nourishment' (a good diet - in both the form of food and of physical and psychological stimulation)
- Help parents see that intimate behaviours such as *bugging and nudging*, *pet names* and *idiosyncratic behaviour* are important and that children's development sometimes seems difficult because they are trying to become independent people with a sense of self
- Have reasonable rules which fit with children's rhythms and give a pattern to life
- Know that parents, as well as children, need support
- Know about child abuse and neglect and have other colleagues to consult
- Recognise the additional requirements of babies and young children with special needs, and plan how to ensure these children have access, in a philosophical, as well as practical sense, to similar experiences and opportunities to their peers
- Help communities and the public understand the importance of positive interactions and experiences in the first three years for all areas of development, including brain development, and for enjoyment in the here and now.

CHAPTER 7

Conclusions and implications

This review of research literature has proved to be an exciting but huge task, because of the wide range of topics which could have been included. Clearly there are allied research areas, such as that on parenting and projects to increase parental empowerment, for example, which would have been covered had there been time and space. Staff training too could be helpfully reviewed at another time and the DfES's current initiatives evaluating new training opportunities for the field are positive developments. Further, although mutliprofessional working, like early intervention, is touched upon, it is not possible for these aspects to be covered comprehensively here. However, readers can turn to other relevant research and reviews by using the reference list provided with this text.

What then are the key messages we would want readers to take from this review of the literature concerning babies and children aged between birth and three years?

One of the messages from any research review concerns the 'gaps' which have been identified. Both this review and that for the British Educational Research Association's Early Years Special Interest Group (BERA EYSIG in press), covering curriculum, pedagogy and training (largely for the 3-6 year old age group but including a section on babies and young children) have thrown up the paucity of research on the processes and practices of ECEC for children from birth to three. In particular the field needs information about toddlers in educare settings. A second important area needing more research is that exploring the impact of practitioner training on children's and parents' experiences of ECEC.

In the USA, Kagan (1996) has argued that focusing on curriculum and pedagogical issues alone will not be sufficient to address developments in early childhood education and care (ECEC). Lynn Kagan suggests that it is necessary to:-

- acknowledge critical social trends affecting young children and their families
- meet the needs of diverse communities
- find out what families want and what is already provided by communities
- establish priorities in relation to services for children and services for families
- address issues of continuity and coherence
- consider infrastructure as well as actual service provision

- disseminate information about early childhood and ECEC more effectively.

These messages could apply equally in England, but what other messages are there from this review of the literature? Since we have drawn out some conclusions and implications in each of the preceding chapters, we will limit our final points to three, for or about each of the main groups involved - the parents, practitioners, policy makers, trainers, researchers, and, last but certainly not least, the children. These 'messages' are:-

Parents

- Families are a context for development for parents too and perhaps all parents need **support** in relating their own experiences of being parented to how they feel about their baby or young child. By dealing with any unresolved dissatisfaction with their own childhoods through narrative, and by **learning about how children develop**, preferably before their first child is born, they can face the challenging task ahead with the joy that will promote positive relationships.
- All parents need respect and recognition as the primary educarers for their children. Support offered should be provided by **warm, approachable professionals**, who recognise that they may have different values from those of the parents. Some parents need extra support either because their circumstances are socio-economically disadvantaged or because their children have special needs. When parents and professionals are truly partners, they and their children achieve much (see for example, Henry 1996; National Association for Special Educational Needs 1999; Whalley et al 2000).
- Parents need **time** to be with their babies and young children, to help them learn and develop, and **sufficient finances** to enjoy them. Many who are in paid employment find their lives highly pressured time-wise and those who are not are generally pressured by stress about finances. The issue of employer involvement in local Early Years Development and Childcare Partnerships and work to improve the work-life balance needs more publicity and debate, because of its long-term implications.

(These statements are based on the research reviewed in this text and on other work, for example see Ferri and Smith 1996; Pugh et al 1994; Smith and Pugh 1996; Smith 1996; Utting 1995; White and Woollett 1992).

Practitioners

- Most of all, we conclude that practitioners need **commitment**. In order to be effective in their relationships with babies and young children, they need to be loving and knowledgeable, and because they work in positions of great responsibility, they need to be professional, accountable and trained in ways which keep them informed about research and able to reflect on that research in the light of their own

observations of children. As one practitioner in an American research report said:-

*'*I was at a party recently, when someone asked me what I did. "I'm an investor," I said. People gathered round me asking about stocks, mutual funds, and so on. I explained that I wasn't dealing with any of those products. "I'm investing in America's future, " I told them – "America's children and their families." Kay Mayo, Family Child Care Provider Austin, TX' Galinsky et al (1994: 96).

- Practitioners require **knowledge of research about child development** in order to be able to articulate why certain practices are important. In particular they need information and training about young children with special needs. This means they need time for that ongoing training.
- Support to develop more **effective inter-agency working** in the interests of young children and their families. (The main factors relating to this effectiveness are detailed in Atkinson et al 2002).

Policy makers

Evangelou and Sylva (2002) reported on the evaluation of the PEEP (Peers Early Education Partnership) intervention based in Oxford. The project, which involves work with adults (parents, carers and preschool staff) who live and work with some 2,000 children from birth to five years in an area of low socio-economic status, set out to effect positive change in educational achievement, especially in literacy. The researchers found that the project did indeed have a positive effect on children's literacy, numeracy and self-esteem but that at this time it is impossible to claim that there will be longterm gains. As Brooks-Gunn (2000:12) has argued,

> 'If policy makers believe that offering early childhood intervention for two years or even three will permanently and totally reduce SES disparities in children's achievements, they may be engaging in magical thinking'

Thus, with this research in mind, together with that reviewed earlier, we conclude that policy makers' priorities must be:-

- a commitment to **ensure that ECEC services for children 0-3 are firstly appropriate and to the advantage of the children** and not simply to enable parents to participate in the workforce. Further, that appropriate support for parents and children is available throughout a child's life, not simply in the early years;
- policies which enable the recruitment of only those who will be **committed practitioners**, and to enable **access to training, and to conditions of service which will ensure retention**;
- **funding more research**, especially that focusing on the experiences of young children in ECEC settings and the lives of two year olds. (Currently there is little research on these very early years and ECEC,

see for example, Mooney and Munton 1997; Mooney et al 2001; OECD 2001).

Trainers

- Need to provide meaningful **courses in child development**.
- They also need to act as **conduits for research information**, ensuring links between practitioners and the research community,
- and to foster the development of **practitioner research networks**, to promote discussion and reflection on research allied to practitioners' own observations.

Researchers

- Researchers need to **forge links across disciplinary boundaries**,
- and to forge links across **parent-practitioner-researcher** boundaries, so that those who are most familiar to babies and children, and with whom they will display the highest levels of their knowledge and achievements, will be enabled to contribute to research **knowledge**.
- They also need to develop methods of and approaches to **dissemination** – some of the new journals, such as *Interplay* and *Early Years Practitioner*, and the developments made by existing professional journals, such as *Nursery World* and *Coordinate*, are fine examples of such efforts.

Children

- **Above all, children need loving, responsive, sensitive key persons around them, people who recognise their fascination with and curiosity about what is going on in their worlds, who will cater for their drive to explore and problem-solve through active learning, and who will provide opportunities to play, make friends and share experiences, and yet allow time for them to be deeply focused alone but near others, as well as ensuring all their health needs are met.**
- **They need to be respected as people in their own right, and**
- **to live in a society which is informed about their development and learning, and which is involved and delighted in their amazing abilities.**

Finally, summing up the most powerful message from the research we reviewed for *Birth to Three Matters*, about children from birth to three and their development and learning, it is this. Babies come already 'designed', or 'programmed', to be deeply interested in the people and world in which they find themselves. They are incredibly observant and selective, as well as being extremely clever at interpreting what they witness. They learn best by playing with things they find in their world, and above all by playing with the familiar people who love them.

References

Abbott, L and Nutbrown, C (eds) (2001) *Experiencing Reggio Emilia. Implications for pre-school provision*. Buckingham: Open University Press

Aber, J.L. and Allen, J.P. (1987) Effects of maltreatment on young children's socioemotional development: an attachment theory perspective. *Developmental Psychology* 23: 406-14

Ainsworth, M. (1967) *Infancy in Uganda: Infant Care and the Growth of Love.* Baltimore: Johns Hopkins University

Ainsworth, M., Bell, S.M. and Stayton, D.J. (1974) Infant-mother attachment and social development: 'socialisation' as products of reciprocal responsiveness to signals. In M.P.M.Richards (ed) *The Integration of a Child into a Social World.* Cambridge: Cambridge University Press pp.99-136

Akande, A. (1992) Strategies for becoming an inviting parent: suggestions for care-givers. *Early Child Development and Care* 80: 3-12

Alexander, P.C. (1992) Application of attachment theory to the study of sexual abuse. *Journal of Consulting and Clinical Psychology* 60: 185-195

Alvarez, A. (ed) (1992) *Live Company. Psychoanalytic Psychotherapy with Autistic, Borderline, Deprived and Abused Children*. London: Routledge

Anderson, A.M. (1996) Factors influencing the father-infant relationship. *Journal of Family Nursing* 2(3): 306-24

Anning, A. (1999) The influence of socio-cultural context on young children's meaning making. Paper presented at the British Educational Research Association Conference, Sussex University, September

Astington, J. (1994) *The Child's Discovery of the Mind*. London: Fontana Press.

Athey, C. (1990) *Extending Thought in Young Children.* London: Paul Chapman Publishing

Atkinson, M., Wilkin, A., Stott, A., Doherty, P. and Kinder, K. (2002) *Multi-Agency Working: a Detailed Study.* Slough: NFER

Aubrey, C. (2001) Questioning comparative approaches: context and the role of international comparison in policy-making. In T.David (ed) *Advances in Applied Early Childhood Education. Vol. 1. Promoting Evidence-Based Practice in Early Childhood Education.* London: JAI pp.273-88

Aubrey, C. (2002) A bridge too far. *Interplay* Summer 2002: 32-35

Baker, D., Taylor, H., Henderson, J. and the ALSPAC Study Team (1998) Inequality in infant mortality: causes and consequences in England in the 1990s. *Journal of Epidemiology and Community Health* 52: 451-457

Bandura, A. (1973) *Aggression: a Social Learning Analysis.* Englewood Cliffs NJ: Prentice Hall

Bandura, A. (1982) Self-efficacy mechanisms in human agency. *American Psychologist* 37: 122-47

Bandura, A. (1992) Social cognitive theory. In R.Vasta (ed) *Six Theories of Child Development: Revised Formulations and Current Issues.* London: Jessica Kingsley Press pp.1-60

Barker, D.J.P., Forsen, T., Uutela, A., Osmond, C. and Eriksson, J.G. (2001) Size at birth and resilience to effects of poor living conditions in adult life: a longitudinal study. *British Medical Journal* 323(7324):1273-6

Barnes, J. and Freude-Lagevardi, A. (2002) *From Pregnancy to Early Childhood: Early Interventions to Enhance the Mental Health of Children and Families.* London: Mental Health Foundation

Barnet, A. and Barnet, R. (1998) *The Youngest Minds: Parenting and Genes in the Development of Intellect and Emotion*. New York: Simon and Schuster.

Barnett, A. (1996) *Lives in the balance: age 27 Benefit-Cost Analysis of the High/Scope Perry Preschool Program*. (Monograph 11). Ypsilanti MI: High/Scope Educational Research Foundation

Barnett, D.W., Pepiton, A.E., Bell. S.H., Gilkey, C.M., Smith, J.J., Stone, C.M., Nelson, K.I. and Maples, K.A. (1999) Evaluating early interventions: accountability methods for service delivery. *Journal of Special Education* 33(3):177-88

Baron-Cohen, S., Leslie, A. and Frith, U. (1985) Does the Autistic Child Have a "Theory of Mind"? *Cognition* 21: 37-45.

Barr, R. and Limb, K. (1997) Mumps, Measles and Rubella (MMR) and Measles Rubella (MR) Vaccines.

(Available at: http://www.whale.to/vaccines/dawbarns.html (accessed 21 February 2002).

Barrett, K.C. and Campos, J.J. (1987) Perspectives on emotional development: II. A functionalist approach to development. In J.D.Osofsky (ed) *Handbook of Infant Development.* New York: John Wiley and Sons pp.555-78

Barrett, M. (ed) (1999) *The Development of Language.* Hove: Psychology Press

Barrs, M. (1988) Maps of Play. In M.Meek and C.Mills (eds) *Language and Literacy in the Primary School.* Lewes: Falmer Press pp.101-15

Barry, J. and Kirke, P. (1997) Congenital anomalies in the Irish Traveller Community. *Irish Medical Journal* 90: 233-234

Bartsch, K.and Wellman, H.M. (1995) *Children Talk about Mind.* Oxford: Oxford University Press

Basso, O., Olsen, J., Johansen, A.M.T. and Christensen, K. (1997) Change in social status and risk of low birth weight in Denmark: a population based cohort study. *British Medical Journal* 315: 1498-502

Bearne, E. (1995) Greater Expectations: Reflections of Difference. In E.Bearne (ed) *Greater Expectations.* London: Cassell pp.1-10

Bee, H. (1989) *The Developing Child.* (5th edition). New York: Harper and Row

Belsky, J. (1996) Parent, infant and social-contextual antecedents of father-son attachment security. *Developmental Psychology* 32 (5): 905-13

Belsky, J., Campbell, S.B., Cohn, J.F. and Moore, G. (1996) Instability of infant-parent attachment security. *Developmental Psychology* 32:921-4

Belsky, J., Friedman, S.R. and Hsieh, K-H. (2001) Testing a core emotion-regulation prediction: does early attentional persistence moderate the effect of infant negative emotionality later on? Child *Developmental 7*2(1): 123-33

BERA Early Years SIG Members (in press) *Review of Early Years Research: Pedagogy, Curriculum and Adult Roles*

Berg, L.E. (2001) Divorce and fathering in late modern Sweden. In T.David (ed) *Advances in Applied Early Childhood Education. Vol.1.Promoting Evidence-Based Practice in Early Childhood Education.* London: JAI pp.27-42

Berrueta-Clement, J-R., Schweinhart, L.J., Barnett, W.S., Epstein, A.S. and Weikart, D.D. (1984) *Changed Lives: the Effects of the Perry Pre-school Program on Youths through Age 19.* Monograph of the High/Scope Educational Research Foundation. Ypsilanti MI: High/Scope Press

Bettelheim, B. (1987) *A good enough parent: the guide to bringing up your child.* London: Thames and Hudson

Bissex, G. (1980) *Gyns at Wrk: a child learns to read and write*. Cambridge Mass: Harvard University Press

Black, D. (1980) *Report on the Working Group on Inequalities in Health.* (The Black Report). London: HMSO

Black, J. (1989) *Child Health in a Multicultural Society.* (2nd Edition). London: British Medical Journal

Blair, P.S., Fleming, P.J., Bensley, D., Smith I., Bacon, C., Taylor Berry, J., Golding, J. and Tripp, J. (1996) Smoking and the Sudden Infant Death Syndrome: results of the 1993-5 case controlled study for the confidential inquiry into stillbirths and deaths in infancy. *British Medical Journal* 313: 195-8

Blakemore, S-J. (2002) More questions than answers? *Interplay* Summer 2002: 24-30

Bloom, L., Marguilis, C., Tinker, E. and Fujita, N. (1996) Early Conversations and Word Learning: Contributions from Child and Adult. *Child Development* 67(6): 3154-75

BMA (1999) *Growing up in Britain: Ensuring a Healthy Future for our Children – A Study of 0-5 Year Olds*. London: British Medical Association

Bogin, B. (1998) Evolutionary and biological aspects of childhood. In C.Panter-Brick (ed) *Biosocial Perspectives on Children.* Cambridge: Cambridge University Press pp.10-44

Bonati, M., Campi, R. and Raisler, J. (2000) Breastfeeding and infant illness. *American Journal of Public Health* 90(9): 1478-9

Bornstein, M.H. (1998) Stability in mental development from early life: methods, measures, models, meanings and myths. In F.Simion and G.Butterworth (eds) *The Development of Sensory, Motor and Cognitive Capacities in Early Infancy: from Perception to Cognition.* Hove: Psychology Press pp.301-332

Bornstein, M.H. (1999) Human infancy: past, present, future. In M.Bennett (ed) *Developmental Psychology. Achievements and Prospects.* London: Taylor and Francis/ Psychology Press pp.13-35

Boukydis, C.F.Z. and Lester, B.M. (1998) Infant crying, risk status and social support in families of pre-term and term infants. *Early Development and Parenting* 7(1): 31-9

Bowerman, M. (1978) The acquisition of word meaning: an investigation into some current conflicts. In N.Waterson and C.Snow (eds) *The Development of Communication.* New York: Wiley pp.263-87

Bowlby, J. (1951) *Maternal Care and Mental Health*. (Report to the World Health Organisation). Geneva: WHO

Bowlby, J. (1953) *Child Care and the Growth of Love.* Harmondsworth: Penguin

Bowlby, J. (1969) *Attachment and Loss Volume 1: Attachment.* New York: Basic Books

Bowlby, J. (1973) *Attachment and Loss Volume 2: Separation.* New York: Basic Books

Bowlby, J. (1980) *Attachment and Loss Volume 3: Loss.* New York: Basic Books

Bowlby, J. (1988) Developmental psychiatry comes of age. *American Journal of Psychiatry* 145: 1-10

Boyd Webb, N. (1984) *Preschool Children with Working Parents: an Analysis of Attachment.* New York: University Press of America

Bradshaw, J. (ed) (2001) *Poverty: the Outcomes for Children.* London: Family Policy Studies Centre

Bråten, S. (1996) When toddlers provide care: infants' companion space. *Childhood* 3(4): 449-66

Braungart-Rieker, J., Courtney, S. and Garwood, M.M. (1999) Mother- and father-infant attachment: families in context. *Journal of Family Psychology* 13(4): 535-53

Braungart-Rieker, J., Garwood, M.M., Powers, B.P. and Wang, X. (2001) Parental sensitivity, infant affect, and affect regulation: predictors of later attachment. *Child Development* 72(1): 252-70

Brazelton, B. (1992) *Touchpoints:Your Child's Emotional and Behavioural Development.* Reading, Mass: Addison Wesley

Bremner, G. (1998) From perception to action: the early development of knowledge. In F.Simion and G.Butterworth (eds) *The Development of Sensory, Motor and Cognitive Capacities in Early Infancy. From Perception to Cognition.* Hove: Psychology Press pp.239-56

Bretherton, I., McNew, S. and Beegley-Smith, M. (1981) Early person knowledge as expressed in gestural and verbal communication: when do infants acquire a "Theory of mind"? In M.E.Lamb and L.R.Sherrod (eds) *Infant Social Cognition.* Hillsdale NJ: Erlbaum pp.333-73

Breton, M. (2001) Neighbourhood resiliency. *Journal of Community Practice* 9(12): 21-36

Brice Heath, S. (1983) *Ways with Words.* Cambridge: Cambridge University Press

Briere, J. (1992) *Child Abuse Trauma: Theory and Treatment of the Lasting Effects.* Newbury Park, CA: Sage

Britton, J. (1970) *Language and Learning.* London: Penguin

Broberg, A.G., Wessels, H., Lamb, M.E. and Hwang, C.P. (1997) Effects of day care on the development of cognitive abilities in 8 year olds: a longitudinal study. *Developmental Psychology* 33(1): 62-9

Brodsky, A.E. (1999) 'Making it': the components and process of resilience among urban, African-American, single mothers. *American Journal of Orthopsychiatry* 69(2):148-60

Bronfenbrenner, U. (1979) *The Ecology of Human Development.* Cambridge Mass: Harvard University Press

Bronfenbrenner, U. (1992) Ecological systems theory. In R.Vasta (ed) *Six Theories of Child Development: Revised Formulations and Current Issues.* London: Jessica Kingsley Press pp.187-249

Bronfenbrenner, U. and Morris, P. (1998) The ecology of developmental processes. In W.Damon and R.M.Lerner (eds) *The Handbook of Child Psychology Vol1. Theoretical Models of Human Development*. New York: John Wiley pp.993-1028

Brooks-Gunn, J. (2000) Do you believe in magic? What we can expect from early childhood intervention programs. Paper presented at Early Childhood Intervention Programs: are the costs justified? Congressional Briefing. Washington, DC

Bruce, T. (1987) *Early Childhood Education.* London: Hodder and Stoughton

Bruce, T. (1996) *Helping Young Children to Play.* London: Hodder and Stoughton

Bruce, T. (1996a) *Tuning in to children* London: BBC (book – part of pack with video and audio material)

Bruce, T. (2001) *Learning through Play: Babies, Toddlers and the Foundation Years.* London: Hodder and Stoughton

Bruce, T. and Meggitt, C. (2002) *Child Care and Education*. 3rd Edition. London: Hodder and Stoughton.

Bruer, J. (1997) Education and the Brain: A Bridge Too Far? *Educational Researcher* 26(8): 4-16.

Bruer, J. (1999) *The Myth of the First Three Years*. New York: The Free Press.

Bruner, J. (1972) The nature and uses of immaturity. *American Psychologist* 27: 1-23

Bruner, J. (1977) *The Process of Instruction.* Cambridge Mass: Harvard University Press

Bruner, J. (1983) *Child's Talk: Learning to Use Language.* Oxford: Oxford University Press

Bruner, J. (1984) Vygotsky's zone of proximal development: the hidden agenda. In B.Rogoff and J.V.Wertsch (eds) *Children's Learning in the Zone of Proximal Development.* San Francisco: Jossey-Bass pp.134-58

Bruner, J. (1986) *Actual Minds, Possible Worlds.* Cambridge, Mass: Harvard University Press

Bruner, J. (1990) *Acts of Meaning.* Cambridge Mass: Harvard University Press

Bruner, J. (2000) Foreword. In J.DeLoache and A.Gottlieb (eds) *A World of Babies.* Cambridge: Cambridge University Press pp.ix-xii

Bruner, J. and Lucariello, J. (1989) Monologue as narrative recreation of the world. In K.Nelson (ed) *Narratives from the Crib.* Cambridge Mass: Harvard University Press pp.73-97

Bruner, J.S., Jolly, A. and Sylva, K. (eds) (1976) *Play: its Role in Development and Evolution.* Harmondsworth: Penguin

Budge, D. (2002) Launch of the first EPPI-Centre reviews on 24 June 2002. *Research Intelligence* 80: 29

Burman, E. (1994) *Deconstructing Developmental Psychology*. London: Routledge

Butler, A.J.P. (1996) Review of children and violence. *Child Abuse Review* 5(4): 297-8

Cairns, E. and Dawes, A. (1996) Children: ethnic and political violence - a commentary. *Child Development* 67(1):129-39

Calkins, S.D., Smith, C.L., Gill, K.L. and Johnson, M.C. (1998) Maternal interactive style across contexts: relations to emotional, behavioural and physiological regulation during toddlerhood. *Social Development* 7(3): 350-69

Campbell, R. (1998) *A three year old learning literacy at home*. Early Years 19(1): 76-89

Campbell, R. (1999) *Literacy from Home to School. Reading with Alice.* Stoke-on-Trent: Trentham Books

Carpenter, B. (ed) (1997) *Families in Context: Emerging Trends in Family Support and Early Intervention.* London: David Fulton

Caselles, C.E. and Milner, J.E. (2000) Evaluations of child transgressions, disciplinary choices, and expected child compliance in a no-cry and a crying infant condition in physically abusive and comparison mothers. *Child Abuse and Neglect* 24(4): 477-91

Catherwood, D. (1999) New Views on the Young Brain: offerings from developmental psychology to early childhood education. *Contemporary Issues in Early Childhood* 1(1): 23—35.

Chambers, A. (1993) *Tell Me, Children, Reading and Talk.* Stroud: Thimble Press

Chambers, E. and Belicki, K. (1998) Using sleep dysfunction to explore the nature of resilience in adult survivors of childhood abuse or trauma. *Child Abuse and Neglect* 22(8): 753-8

Channel 4 Television (1992) *Childhood.* (Television series). London: Channel 4

Chen, Y-J. and McCollum, J.A. (2000) Taiwanese mothers' perceptions of the relationship between interactions with their infants and the development of social competence. *Early Child Development and Care* 162: 25-40

Chenoweth, L. and Stehlik, D. (2001) Building resilient communities: social work practice and rural Queensland. *Australian Social Work* 54(2): 47-54
Chomsky, N. (1965) *Aspects of a Theory of Syntax.* MA: MIT Press
Chomsky, N. (1975) *Reflections on Language.* NY: Pantheon Books
Christie, B. (2002) Scottish expert group finds no link between MMR and Autism. *BJM* 324: 1224
Ciccetti, D., Toth, S. and Bush, M. (1988) Developmental psychopathology and incompetence in childhood: suggestions for intervention. In B.B.Lahey and A.E.Kazdin (eds) *Advances in Clinical Child Psychology.* New York: Plenum Press pp.1-77
Clarke, A. (2001) Early adversity and adoptive solutions. *Adoption and Fostering* 25(1): 24-32
Clarke, A. and Clarke, A. (2000) *Early Experience and the Life Path.* London: Jessica Kingsley Open Books
Clarke, A.D.B. and Clarke, A.M. (1996) Varied destinies: a study of unfulfilled predictions. In B.Bernstein and J.Brannen (eds) *Children, Research and Policy.* London: Taylor and Francis pp.47-62
Clarke, A.M. and Clarke, ADB. (eds) (1976) *Early Experience: Myth and Evidence.* London: Open Books
Clarke, P. (1999) *Supporting bilingual learners. Workshop Papers*. Melbourne: Free Kindergarten Association
Clarke-Stewart, A., Gruber, C.P., and Fitzgerald, L.M. (1994) *Children at Home and in Day Care.* Hillsdale NJ: Erlbaum
Cochran, M., Larner, M. Riley, D., Gunnarsson, L. and Hendreson, C.R.Jr. (1990) *Extending Families. The Social Networks of Parents and their Children. Cambridge: Cambridge University Press*
Coles, M. (1996) The Magnifying Glass In N.Hall and J.Martello (eds) *Listening to Children Think: Exploring Talk in the Early Years.* Sevenoaks: Hodder and Stoughton pp.1-17
Cooper, P.J. and Murray, L. (1998) Fortnightly review: postnatal depression. *British Medical Journal* 316(7148): 1884-6
Coupe, J. and Goldbart, J. (eds) (1988) *Communication Before Speech.* London: Croom Helm
Cox, J. (forthcoming) Childhood in Crisis? Work in progress for PhD study, Canterbury Christ Church University College/ University of Kent at Canterbury
Cox, M.J. and Margand, N.A. (1992) Prediction of infant-father and infant-mother attachment. *Developmental Psychology* 28:474-83
Craft, A. (2000) *Creativity - across the primary curriculum.* London: Routledge
Crittendon, P.M. (1992) Children's strategies for coping with adverse environments: an interpretation of attachment theory. *Child Abuse and Neglect* 16: 329-343
Cullen, C., Field, T., Escalona, A. and Hartshorn, K. (2000) Father-infant interactions are enhanced by massage therapy. *Early Child Development and Care* 164: 41-7

Culp, R.E., Little, V., Letts, D. and Lawrence, H. (1991) Maltreated children's self-concept. *American Journal of Orthopsychiatry* 61: 11-21

Currer, C. (1991) Understanding the mother's viewpoint: the case of Pathan women in Britain. In S.Wyke and J.Hewison (eds) *Child Health Matters.* Milton Keynes: Open University Press pp.40-52

Curtis, A.M. (1998) *Curriculum for the Preschool Child: Learning to Learn*. (2nd edition). London: Routledge

Cutrona, C.E., Hessling, R.M., Bacon, P.L. and Russell. D.W. (1998) Predictors and correlates of continuing involvement with the baby's father among adolescent mothers. *Journal of Family Psychology* 12(3): 369-87

Dahlberg, G., Moss, P. and Pence, A. (1999) *Beyond Quality in Early Childhood Education and Care. Postmodern Perspectives*. London: Falmer Press

Daniel, B. and Baldwin, N. (2001) Assessment practice in cases of child neglect: a developmental project. *Practice* 13(4): 21-38

Daro, D. (1993) Child maltreatment research: implications for program design. In D.Cicchetti and S.Toth (eds) *Child Abuse, Child Development and Social Policy.* Norwood NJ: Ablex pp.331-67

David, T. (1990) *Under Five – Under-educated?* Milton Keynes: Open University Press

David, T. (1993) *Child Protection and Early Years Teachers.* Buckingham: Open University Press

David, T. (1993a) Families and child protection: the role of the early childhood educator. *International Journal of Early Childhood* 25(2): 8-12

David, T. (ed) (1998) *Researching Early Childhood: European Perspectives.* London: PCP/Sage

David, T., Raban, B., Ure, C. Goouch, K., Jago, M. Barrière, I., Lambirth, A. (2000) *Making Sense of Early Literacy: a Practitioner's Perspective.* Stoke-on-Trent: Trentham Books

Davies, D. (1999) *Child Development. A Practitioner's Guide*. New York: The Guildford Press

Davies, M. (2002) *Young Children Learning through Dance and Movement.* London: Paul Chapman/Sage

Dawkins, R. (1976) *The Selfish Gene.* Oxford: Oxford University Press

De Haan, D. and Singer, E. (2001) Young children's language of togetherness. *International Journal of Early Years Education* 9(2): 117-24

Deater-Deckard, K., Pinkerton, R. and Scarr, S. (1996) Child care quality and children's behavioural adjustment: a four year longitudinal study. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 37(8): 937-48

Deloache, J.S. and Brown, A.L. (1987) The early emergence of planning skills in children. In J.Bruner and H.Haste (eds) Making Sense. London: Methuen pp. 108-30

DES (1990) *Starting with Quality*. (Rumbold Report) London: HMSO

DeSpiegelaere, M., Dramaix, M. and Hennart, P. (1998) Socio-economic status and changes in body mass from 3-5 years. *Archives of Disease in Childhood* 78: 477-478

DfEE (2001) *Schools Building on Success.* (Green Paper). London: DfEE

DfEE (2001a) *National Standards for Under Eights' Day Care and Childminding* London: DfEE

DfES (2001) *The National Childcare Strategy.* (Green Paper). London: DfES

Diamond, M. and Hopkins, J. (1998) *Magic Trees of the Mind. How to Nurture Your Child's Intelligence, Creativity, and Healthy Emotions from Birth through Adolescence.* New York: Dutton/ Penguin

Donaldson, M. (1978) *Children's Minds.* Glasgow: Fontana/Collins

Donovan, W.L., Leavitt, L.A. and Walsh, R.O. (2000) Maternal illusory control predicts socialization strategies and toddler compliance. *Developmental Psychology* 36(3): 402-11

Doyle, B. (1997) Transdisciplinary approaches to working with families. In B.Carpenter (ed) *Families in Context: Emerging Trends in Family Support and Early Intervention.* London: David Fulton pp.150-63

Drewett, R., Wolke, D., Asefa, M., Kaba, M. and Tessema, F. (2001) Malnutrition and mental development: is there a sensitive period? A nested case-control study. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 42(2): 181-7

Duffy, B. (1998) *Supporting Creativity and Imagination in the Early Years.* Buckingham: Open University Press

Dunn, J. (1984) S*isters and Brothers.* London: Fontana

Dunn, J. (1987) Understanding feelings: the early stages. In J.Bruner and H.Haste (eds) *Making Sense.* London: Methuen pp.26-40

Dunn, J. (1988) *The Beginnings of Social Understanding.* Cambridge Mass: Harvard University Press

Dunn, J. (1993) *Young Children's Close Relationships. Beyond Attachment.* Newbury Park California: Sage

Dunn, J. (1999) Mindreading and Social Relationships. In M.Bennett (ed) *Developmental Psychology.* London: Taylor and Francis 55-71

Dwivedi, K. N. (1996) Race and the Child's Perspective. In R.Davie, G.Upton and V.Varma (eds) *The Voice of the Child: a Handbook for Professionals.* London: Falmer pp.153-69

Dyson, A.H. (2001) Where are the Childhoods in Childhood Literacy? An exploration in outer (school) space. *Journal of Early Childhood Literacy* 1(1): 9-38

Early Years Curriculum Group (1989) *Early Childhood Education.* Stoke-on-Trent: Trentham Books

Echenrode, J., Laird, M. and Doris, J. (1993) School performance and disciplinary problems among abused and neglected children. *Developmental Psychology* 29: 53-62

Edwards, C., Gandini, L. and Foreman, G. (1998) *The Hundred Languages of Children.* NY: Ablex

Egeland, B., Sroufe, L.A. and Erickson, M. (1983) The developmental consequences of different patterns of maltreatment. *Child Abuse and Neglect* 7: 459-69

Elfer, P. and Selleck, D. (1999) Children under three in nurseries. Uncertainty as a creative factor in child observations. *European Early Childhood Education Research Journal* 7(1): 69-82

Elfer, P., Goldschmeid, E. and Selleck, D. (2002) *Key Persons in Nurseries: Building Relationships for Quality Provision.* London: NEYN

Eliot, L. (1999) *Early Intelligence: How the Brain and Mind Develop in the First Five Years of Life.* London: Penguin Books Ltd.

Emde, R.N., Gaensbauer, T.J. and Harmon, R.J. (1976) *Emotional Expression in Infancy.* New York: International Universities Press

Engle, P.L., Castle, S. and Menon, P. (1996) Child development, vulnerability and resilience. *Social Science and Medicine* 43(5):621-35

Erikson, E. (1963) *Childhood and Society.* Harmondsworth: Penguin

Erikson, E. (1968) *Identity: Youth and Crisis.* London: Faber

Evangelou, M. and Sylva, K. (2002) *The Effects of the Peers Early Education Partnership (PEEP) on Children's Developmental Progress*. Confidential Final Report for the study funded by the DfES. Tender no. 4/RP/236/2000 Oxford: University of Oxford Department of Education

Evans, G.W., Maxwell, L.E. and Hart, B. (1999) Parental language and verbal responsiveness in crowded homes. *Developmental Psychology* 35(4): 1020-3

Fall, C.H.D., Goggin, P.M., Harstin, P., Fine, D. and Duggleby, S. (1997) Growth in infancy, infant feeding, childhood living conditions and Heliobacter pylori infection at age 70. *Archives of Disease in Childhood* 77: 310-314

Farver, J.M. and Frosch, D.L. (1996) L.A.Stories: aggression in preschoolers' spontaneous narratives after the riots of 1992. *Child Development* 67: 19-32

Fawcett, A. (2001) *Special Educational Needs/ Early Years Literature Review. A report to the Department for Education and Skills.* Sheffield: University of Sheffield

Feldman, C.F.(1992) The theory of theory of mind. In *Human Development* 35: 107-17

Feldman, M.A., Hancock, C.L., Rielly, N. Minnes, P. and Cairns, C. (2000) Behaviour problems in young children with or at risk for developmental delay. *Journal of Child and Family Studies* 9(2): 247-61

Fenton, D. and Martello, J. (1996) Bathtime Talk. In N.Hall and J.Martello (eds) *Listening to Children Think: Exploring Talk in the Early Years.* Sevenoaks: Hodder and Stoughton pp.18-33

Ferguson, C.A. and Slobin, D.I. (eds) (1973) *Studies of Child Language Development.* New York: Holt Rinehart and Wilson

Ferri, E. and Smith, K. (1996) *Parenting in the 1990s.* London: Family Policy Studies Unit/ Joseph Rowntree

Fonagy, P., Steele, H. and Steele, M. (1991) Maternal representations of attachment predict the organization of infant-mother attachment at one year of age. *Child Development* 62: 891-905

Fonagy, P., Steele, M., Steele, H., Higgitt, A. and Target, M. (1994) The theory and practice of resilience. *Journal of Child Psychology and Psychiatry* 35: 231-57

Forrest, G. (ed) (1997) *Bonding and Attachment: Current Issues in Research and Practice.* Occasional Paper 14. London: Association of Child Psychology and Psychiatry

Fox, N.A., Kimmerley, N.L. and Schafer, W.D. (1991) Attachment to mother/ attachment to father a meta-analysis. *Child Development* 62: 210-25

Fürstenberg, F. and Cherlin, A. (1991) *Divided Families.* Cambridge Mass: Harvard University Press

Galinsky, E., Howes, C., Kontos, S. and Shinn, M. (1994) *The Study of Children in Family Child Care and Relative Care.* New York: Families and Work Institute

Gallagher, J.J. (1990) The family as a focus for intervention. In S.J.Meisels and J.P.Shonkoff (eds) (1990) *Handbook of Early Childhood Interventions.* Cambridge: Cambridge University Press pp.540-59

Gammage, P. (1999) Early childhood education in a postmodern world. In L.Abbott and H.Moylett (eds) *Early Education Transformed.* London: Falmer pp.153-163

Garbarino, J. (1993) Children's response to community violence: what do we know? *Infant Mental Health Journal* 14: 103-115

Gardner, F. (1994) The quality of joint activity between mothers and their children with behaviour problems. *Journal of Child Psychology and Psychiatry* 35: 935-48

Gardner, H. (1993) *The Unschooled Mind.* London: Fontana

Garrett, M., McElroy, A.M. and Staines, A. (2002) Locomotor milestones and babywalkers: cross sectional study. *British Medical Journal* 324: 1494

Garvey, C. (1984) *Children's Talk.* Oxford: Fontana

Gauthier, A.H. (1996) *The State and the Family.* Oxford: Clarendon Press

Gelman, R. and Gallistel, C.R. (1978) *The Child's Understanding of Number.* Cambridge Mass: Harvard University Press

Gesell, A. and Armatruda, C.S. (1947) *Developmental diagnosis.* New York: Haber

Gibson, E. J. (1969) *Principles of Perceptual Learning.* New York: Prentice Hall

Gilgun, J.F. (1996) Human development and adversity in ecological perspective, part 1: a conceptual framework. *Families and Society* 77(7):395-402

Gilligan, C. (1982) *In a Different Voice: Psychological Theory and Women's Development.* Cambridge Mass: Harvard University Press

Goddard Blythe, S. (2000) Early learning in the balance. *Support for Learning* 15(4): 154-9

Goin, R.P. (1998) A review of per social development in early childhood. *Early Child Development and Care* 142: 1-8

Goldman-Racik, P. (1987) Development of Cortical Circuitry and Cognitive Function. *Child Development*, 58: 601-622.

Goldschmeid, E. (1986) *Infants at Work. Babies of 6-9 months exploring everyday objects*. London: National Children's Bureau (video)
Goldschmeid, E. and Jackson, S. (1994) *People Under Three: Young Children in Day Care.* London: Routledge
Goldschmied, E. and Selleck, D. (1996) *Communication between babies in their first year.* London: National Children's Bureau Early Childhood Unit
Goleman, D. (1996) *Emotional Intelligence: Why it can matter more than IQ.* London: Bloomsbury Publishing
Goodman, R. and Scott, S. (1997) *Child Psychiatry.* Oxford: Blackwell
Gopnik, A., Melzoff, A. and Kuhl, P. (1999) *How Babies Think: the Science of Childhood*. London: Weidenfeld and Nicolson
Gordon, P., Shaw, M., Dorling, D. and Smith, G.D. (1999) *Inequalities in Health: the Evidence Presented to the Independent Inquiry into Inequalities in Health.* Bristol: Policy Press
Goswami, U. (1998) *Cognition in Children.* Hove: Psychology Press
Graham, H. (1984) *Women, Health and the Family*. Brighton: Wheatsheaf
Grainger, T. and Goouch, K. (1999) Young children and playful language. In T.David (ed) *Teaching Young Children*. London: Paul Chapman/ Sage pp.19-29
Grandin, T. (1996) *Thinking in Pictures: And Other Reports from My Life With Autism*. USA: Vintage
Graves, D. (1983) *Writing: Teachers and Children at Work.* London: Heinemann
Greene, S. (1999) Child development: old themes, new directions. In M.Woodhead, D.Faulkner and K.Littleton (eds) *Making Sense of Social Development.* London: Routledge/ Open University pp.250-268
Greenfield, S. (1997) *The Human Brain*. London: Weidenfeld and Nicolson.
Greenough, W.T., Black, J.E. and Wallace, C.S. (1987) Experience and brain development. *Child Development* 58: 569-582
Gregory, E. (2001) Sisters and brothers as language and literacy teachers: Synergy between siblings playing and working together. *Journal of Early Childhood Literacy* 1(3): 301-322
Grossman, F.K., Eichler, L.S. and Winickoff, S.A. (1980) *Pregnancy, birth and parenthood: adaptations of mothers, fathers and infants*. San Francisco: Jossey Bass
Grugeon, E. (1999) The State of Play: children's oral culture, literacy and learning. *Reading* 33(1): 13-16
Grych, J.H. and Clark, R. (1999) Maternal employment and development of the father-infant relationship in the first year. *Developmental Psychology* 35(4): 893-903
Gunnar, M. R. (1996) *Quality of Care and the Buffering of Stress Physiology: Its Potential in Protecting The Developing Human Brain.* Minnesota: University of Minnesota Institute of Child Development
Haddad**,** D.F., Green, E.S.A. and Oliver, R.E. (2000) *Core Paediatrics and Child Health.* London: Churchill Livingstone

Hagekull, B., Stenberg, G. and Bohlin, G. (1993) Infant-mother social referencing interactions: description and antecedents in maternal sensitivity and infant irritability. In *Early Development and Parenting* 2(3): 183-191

Haglund, B. and Cnattingius, S. (1990) Cigarette smoking as a risk factor for SIDS. *American Journal of Public Health* 80: 29-32

Halliday, M.A.K. (1978) *Language as Social Semiotic.* London: Arnold

Hannon, P., Weinberger, J. and Nutbrown, C. (1991) A study of work with parents to promote early literacy development. *Research Papers in Education* 6(2): 77-97

Harris, P. (1989) *Children and Emotion: the Development of Psychological Understanding.* Oxford: Basil Blackwell

Harste, J.C., Woodward, V.A. and Burke, C.L. (1984) *Language Stories and Literacy Lessons.* New Hampshire: Heinemann

Hasselberg, M., Laflamme, L., Ringback, G. and Weitoft, P. **(**2001) Socio-economic differences in road traffic injuries during childhood and youth: a closer look at different kinds of road user. *Journal of Epidemiology and Community Health* 55: 858-62

Haynes-Seman, C. and Baumgarten, D. (1998) The victimization of young children. *Journal of Aggression, Maltreatment and Trauma* 2(1); 67-86

Hennessy, E. and Melhuish, E.C. (1991) Early day care and the development of school-age children: a review. *Journal of Reproductive and Infant Psychology* 9: 117-36

Henry, D.L.(1999) Resilience in maltreated children: implications for special needs adoptions. *Child Welfare* 78(5):519-40

Henry, M. (1996) *Young Children's Parents and Professionals.* London: Routledge

Herbert, E. (1994) Becoming a special family. In T.David (ed) *Working Together for Young Children.* London: Routledge pp.81- 92

Herbert, E. and Carpenter, B. (1994) Fathers – the secondary partners: professional perceptions and a father's reflections. *Children and Society* 8(1): 31-41

Herbert, M. (1999) *Clinical Child Psychology.* Chichester: John Wiley and Sons

Hilton, M. (1996) The Children of this World. In M.Hilton (ed) *Potent Fictions.* London: Routledge pp.1-16

Hinde, R.A. (1982) *Ethology* London: Fontana

Hirose, T. and Barnard, K. (1997) Interactions between depressed mothers and their infants: maternal verbal joint attention and its effects on the infant's cognitive development. *Early Child Development and Care* 138: 83-95

Hirschfield, D.R., Rosenbaum, J.F., Biederman, J., Bolduc, E.A., Faranone, S.V., Snidman, N., Reznick, J.S. and Kagan, J. (1992) Stable behavioural inhibition and its association with anxiety disorder. *Journal of the American Academy of Child and Adolscent Psychiatry* 31: 103-111

Hirst, J. (1999) Growing Strong. *Community Care* 13 May 1999: 18-20

Hobson, R.P. (1993) *Autism and the Development of Mind.* Hove and Hillsdale NJ: Lawrence Erlbaum
Hoffer, M. (ed) (1975) *Parent-infant Interaction.* Amsterdam: Elsevier
Home Office, DoH, DES, Welsh Office (1991) *Working Together Under the Children Act.* London: HMSO
Hopkins, J. (1988) Facilitating the development of intimacy between nurses and infants in day nurseries. *Early Child Development and Care* 33: 99-111
Hornby, G., Atkinson, A. and Howard, J. (1997) *Controversial Issues in Special Education.* London: David Fulton
Howes, C. (1987) Peer interaction of young children. *Monographs of the Society for Research in Child Development* (No.217, 53: 1)
Howes, C. (1991) A comparison of preschool behaviors with peers when children enrol in child-care as infants or older children. *Journal of Reproductive and Infant Psychology* 9:105-15
Howes, C. and Hamilton, C.E. (1993) Child care for young children. In B.Spodek and O.Saracho (eds) *Yearbook in Early Childhood Education. Vol.3: Issues in Child Care.* New York: Teachers' College Press pp.31-46
Howes, C., Hamilton, C.E. and Matheson, C.C. (1994) Children's relationships with peers: differential associations with aspects of the teacher-child relationship. *Child Development* 65(1): 253-63
Howes, C., Hamilton, C.E. and Matheson, C.C. (1994a) Maternal, teacher and child care history correlates of children's relationships with peers. *Child Development* 65(1): 264-73
Hutchins, T. and Sims, M. (1999) *Program Planning for Infants and Toddlers, an Ecological Approach.* London: Prentice Hall
Hutt, C. (1966) Exploration and play in children. In *Play, Exploration and Territory in Mammals*. Symposium of the Zoological Society 18: 61-8
Hutt, C. (1972) *Males and Females.* Harmondsworth: Penguin
Hutt, C (1979) Early education and child care in India and Sri Lanka: a critical review. *Bulletin of the British Psychological Society* 32: 377- 80
Hutt, S.J., Tyler, S., Hutt, C. and Christopherson, H. (1989) *Play, Exploration and Learning.* London: Routledge
Isaacs, S. (1930) *Intellectual Growth in Young Children.* London: Routledge and Kegan Paul
Isaacs, S. (1933) *Social Development in Young Children.* London: Routledge and Kegan Paul
Jagger, G. and Wright, C. (eds) (1999) *Changing Family Values.* London: Routledge
Jarousse, J-P., Mingat, A. and Richard, M (1991) *La scolarisation maternelle à deux ans: analyse des effets pedagogiques and sociaux*. Bourgogne: L'Université de Bourgogne
Johnson, M. (1999) Developmental cognitive neuroscience. In M.Bennett (ed) *Developmental Psychology.* London: Taylor and Francis pp.147-64
Johnson, M. (2002) Brain building. *Interplay* Summer 2002: 36-42

Johnson, M. and Mareschal, D. (2001) Cognitive and perceptual development during infancy. *Current Opinion in Neurobiology* 11: 213—218.
Kagan, J. (1984) *The Nature of the Child.* New York: Basic Books
Kagan, J. (1998) *Three Seductive Ideas.* Cambridge Mass: Harvard University Press
Kagan, S.L. (1996) Meeting family and community needs: the three Cs of early childhood education. Paper presented at the Australia and New Zealand Conference on the First Years at School, Hobart Tasmania, January
Kalff, A.C., Kroes, M., Vles, J.S.H., Hendriksen, T.G.M., Feron, F.J.M., Steyaent, J., van Zeben, T.M.C.B., Joles, J. and van Os, J. (2001) Neighbourhood level and individual level SES effects on child problem behaviour: a multilevel analysis. *Journal of Epidemiology and Community Health* 55: 246-50
Kamel, H. and Dockrell, J.E. (2000) Divergent perspectives, multiple meanings: a comparison of care-givers' and observers' interpretations of infant behaviour. *Journal of Reproductive and Infant Psychology* 18(1): 41-60
Karmiloff, K. and Karmiloff-Smith, A. (2001) *Pathways to Language: From Fetus to Adolescent*. Cambridge Mass: Harvard University Press
Karmiloff-Smith, A. (1992) *Beyond Modularity: a Developmental Perspective on Cognitive Science.* Cambridge, Mass: MIT Press
Karmiloff-Smith, A. (1994) *Baby It's You.* London: Ebury Press
Karmiloff-Smith, A. (1995) Annotation: The Extraordinary Cognitive Journey from Foetus through Infancy. *Journal of Child Psychology and Psychiatry* 36(8): 1293-1313
Katz, I. (1996) *The Construction of Racial Identity in Children of Mixed Parentage: Mixed Metaphors.* London: Kingsley
Katz, L. and Shatz, C. (1997) Synaptic activity and the construction of cortical circuits. *Science*, 274: 1133.
Kellmer-Pringle, M. (1980) *The Needs of Children.* (2nd edition). London: Hutchinson
Kelly, B. (1996) The significance of preschool behaviour problems for adjustment in later life. *Early Child Development and Care* 117:1-19
Kendall, L. (2002) *The First Twelve Months.* London: IPPR
Kinard, E.M. (1998) Methodological issues in assessing resilience in maltreated children. *Child Abuse and Neglect* 22(7): 669-80
Kinra, S., Nelder, R.P. and Lewendon, G.J. (2000) Deprivation and childhood obesity: a cross-sectional study of 20,973 children in Plymouth, UK. *Journal of Epidemiology and Community Health* 54: 456-460
Kochanska, G., Coy, K.C. and Murray, K.T. (2001) The development of self-regulation in the first four years of life. *Child Development* 72(4): 1091-111
Kohlberg, L. (1984) *Essays on Moral Development. Vol.2: The Psychology of Moral Development.* San Francisco CA: Harper and Row

Kokkinaki, T. and Kugiumutzakis, G. (2000) Basic aspects of vocal initation in infant-parent interactions in the first 6 months. *Journal of Reproductive and Infant Psychology* 18(3): 173-87

Kong, D.S. (1995) Psychiatric disorders in preschoolers. *Singapore Medical Journal* 36(3): 318-21

Konner, M. (1991) *Childhood.* London: Ebury Press

Koopman, L.P., Smit. H.A., Heijnen, M.L., Wijga, A. (2001) Respiratory infections in infants: interaction of parental allergy, childcare and siblings. The PLAMA Study. *Pediatrics* 108: 943-48

Kornhaber, M.and Marcos, H. (2000) Young children's communication with mothers and fathers: funcxtions and contents. *British Journal of Developmental Psychology* 18(2): 187-210

Kotch, J.B. (1997) Stress, social support and substantiated maltreatment in the second and third years of life. *Child Abuse and Neglect* 21(11): 1025-37

Kress, G. (1997) *Before Writing: Rethinking the paths to literacy.* London: Routledge

Kress, G. (2000) *Early Spelling, Between convention and creativity.* London: Routledge

Kristensen, I., Aaby, P., Jensen, H. and Fine, P. (2002) Routine vaccinations and child survival: follow up study in Guinea-Bessau. *British Medical Journal* 321:1435-9

Kuhl, P.K., Williams, K.A., Lacerda, F., Stevens, K.N. and Lindblom, B. (1992) Linguistic experience alters phonetic perceptions in infants by 6 months of age. *Science* 255: 606-608

Kumar, R.C. (1997) "Anybody's child": severe disorders of mother-to-infant bonding. *British Journal of Psychiatry* Vol 171: 175-81

Kurtz, P.D., Gaudin, J.M., Wodarski, J.S. and Howing, P.T. (1993) Maltreatment and the school-aged child: school performance consequences. *Child Abuse and Neglect* 17: 581-9

Laakso, M-L., Poikkeus, A-M., Katajäki and Lyytinen, P. (1999) Early intentional communication as a predictor of language development in young toddlers. *First Language* 19: 207-31

Labrell, F. (1994) A typical interaction behaviour between fathers and toddlers: teasing. *Early Development and Parenting* 3(2): 125-30

Laucht, M., Esser, G. and Schmidt, M.H. (1994) Parental mental disorder and early child development. *European Child and Adolescent Psychiatry* 3(3): 125-37

Lawson, M. and Thomas, M. (1999) Vitamin D concentrations in Asian children aged 2 years living in England: population survey. *BMJ* 318(7175): 28

Leach, P. (1994) *Children First.* London: Michael Joseph

Leach, P. (1997) *Your Baby and Child.* London: Penguin

Leon, D.A., Vagero, D. and Olansson, P.O. (1992) Social class differences in infant mortality in Sweden: comparison with England and Wales. *British Medical Journal* 305: 687-91

LeVine, R.A. and Miller, P.M. (1990) Commentary. *Human Development* 33: 73-80

Lieberman, A.F. (1993) *The Emotional Life of the Toddler.* New York: Free Press

Lier, L. (1997) The Copenhagen model of early preventive intervention aimed at high risk families. *Social Work in Europe* 4(2): 15-18

Light, P. (1983) Social interaction and cognitive development: a review of post-Piagetian research. In S.Meadows (ed) *Developing Thinking.* London: Methuen pp.67-88

Lindon, J. (1999) *Too safe for their own good? Helping children learn about risk and lifeskills.* London: NEYN

Lindon, J. (2001) *Understanding Children's Play*. Cheltenham: Nelson Thornes

Long, F. and Garduque, L. (1987) Continuity between home and family day care: care-givers' and mothers' perceptions and children's social experiences. In D.L.Peters and S.Kontos (eds) *Continuity and Discontinuity of Experience in Child Care.* Norwood, New Jersey: Ablex pp.69-90

Lowenthal, B. (1998) The effects of early childhood abuse and the development of resiliency. *Early Child Development and Care* 142:43-52

Lowenthal, B. (1999) Effects of maltreatment and ways to promote children's resiliency. *Childhood Education* 75(4):204-9

Lubeck, S. (1986) *Sandbox Society.* London: Falmer

Luthar, S.S. (1993) Methodological and conceptual issues in research on childhood resilience: annotation. *Journal of Child Psychology, Psychiatry and Allied Disciplines* 34(4):441-53

Luthar, S.S. and Zigler, E. (1991) Vulnerability and competence: a review of research on resilience in childhood. *American Journal of Orthopsychiatry* 61:6-22

Luthar, S.S., Cicchetti, D. and Becker, B. (2000) The construct of resilience: a critical evaluation and guidelines for future work. *Child Development* 71(3): 543-75

Lynch, M. (1998) Making health equality a reality. *Poverty* 101: 8-10

Lyons-Ruth,K. and Zeanah,C.H.Jr. (1993) The family context of infant mental health: I – affective development in the primary care-giving relationship. In C.H.Zeanah Jr. (ed) *Handbook of Infant Mental Health* New York: Guildford Press pp.14-37

MacNaughton, G. and Williams, G. (1998) *Techniques for Teaching Young Children* Frenchs Forest NSW Australia: Longmans

Macrory, G. (2001) Language development: what do early years practitioners need to know? *Early Years* 21(1): 33-40

Makin, L., Cambell, J. and Jones Diaz, C. (1995) *One Childhood Many Languages.* Sydney: Harper Educational

Mandler, J. (1999) Preverbal representation and language. In P.Bloom, M.Peterson, L.Nadel and M.Garrett *Language and Space.* Cambridge Mass: A Bradford Book/ MIT Press pp.365-84

Manning-Morton, J. and Thorp, M. (2001) *Key Times, A Framework for Developing High Quality Provision for Children Under Three Years Old*. London: Print Emporium Ltd/Camden Early Years Under Threes Development Group

Marchant, R. (2001) Working with Disabled Children. In P.Foley, J.Roche and S.Tucker (eds) *Children in Society: Contemporary Theory, Policy and Practice.* Buckingham: Open University Press 215-23

Marcos, H. (1995) Mother-child and father-child communication in the second year: a functional approach. *Early Development and Parenting* 4(2): 49-61

Markus, J., Mundy, P., Morales, M., Delgado, C.E.F. and Yale, M. (2000) Individual differences in infant skills as predictors of child-care-giver joint attention and language. *Social Development* 9(3): 302-15

Martin, C.J., Platt, S.D. and Hunt, S.M. (1987) Housing conditions and ill health. *British Medical Journal* 294: 1125-7

Martin, W. and Dombey H (2002) Finding a Voice: Language and Play in the Home Corner. In *Language and Education* 16(1): 48-61

Mason, M. (1992) *Disability Equality in the Classroom: A Human Rights Issue.* London: Disability Equality in Education

Mason, M. and Davies, A. (1993) *Inclusion, the Way Forward: a Guide to Integration for Young Disabled Children.* London: VOLCUF

Masten, A.S. and Coatsworth, J.D. (1998) The development of competence in favourable and unfavourable environments: lessons from research on successful children. *American Psychologist* 53(2): 205-20

Matthews, J. (1998) The Representation of Events and Objects in the Drawings of Young Children from Singapore and London: Implications for the Curriculum. *Early Years* 18(1): 90-109

Matthews, J. (2002) *Developing Drawing and Painting with Young Children.* London: Paul Chapman/ Sage

Mayall, B. (1996) *Children, Health and the Social Order*. Buckingham: Open University Press.

McGlone, P., Dobson, B., Dowler, E. and Nelson, M. (1999) *Food Projects and How They Work.* York: Joseph Rowntree Foundation

McGuire, J. (1991) Social interactions of young, withdrawn children in day nurseries. *Journal of Reproductive and Infant Psychology* 9: 169-79

Meade, A. (2001) One Hundred Billion Neurons: How do they become organised? In T. David (ed) *Advances in Applied Early Childhood Education. Vol. 1. Promoting Evidence-based Practice in Early Childhood Education: Research and its Implications.* London: JAI pp.3-26

Meadows, S. (1993) *The Child as Thinker*. London: Routledge

Meek, M. (1985) Play and Paradoxes: Some Considerations of Imagination and Language. In G.Wells and J.Nicholls (eds) *Language and Learning: An Interactional Perspective.* Buckingham: Open University Press pp. 41-57

Meek, M. (1998) Important Reading Lessons. In B.Cox (ed) *Literacy is Not Enough.* Manchester: Manchester Book Trust pp.116-23

Meek, M. (2000) Transitional Transformations. In E.Bearne and V.Watson (eds) *Where Texts and Children Meet.* London: Routledge pp.198-212
Meggitt, C. (2001) B*aby and Child Health.* Oxford: Heinemann Educational Publishers
Meisels, S.J. and Shonkoff, J.P. (eds) (1990) *Handbook of Early Childhood Interventions.* Cambridge: Cambridge University Press
Melhuish, E.C. and Moss, P. (eds) (1991) *Day care for Young Children: International Perspectives.* London: Tavistock/ Routledge
Meltzoff, A.N. (1988) Infant imitiation after one week delay: long-term memory for novel acts and multiple stimuli. *Developmental Psychology* 24: 470-76
Meltzoff, A.N. and Borton, R.W. (1979) Intermodal matching by human neonates. *Nature* 282: 403-4
Menzies Lyth, I. (1995) The development of the self in children in institutions. In J.Trowell and M.Bower (eds) *The Emotional Needs of Young Children and Their Families: Using Psychoanalytic Ideas in the Community.* London: Routledge pp.189-208
Miller, L., Rustin, M., Rustin, M. and Shuttleworth, J. (eds) (1989) *Closely Observed Infants* London: Duckworth
Miller, M. (1996) Relevance of resilience to individuals with learning disabilities. *International Journal of Disability, Development and Education* 43(3):255-269
Minde, K. (1993) Prematurity and serious medical illness in infancy: implications for development and intervention. In C.H.Zeanah Jr (ed) *Handbook of Infant Mental Health.* New York: Guildford Press pp.87-105
Molfese, V.J., DiLalla, L.F. and Lovelace, L. (1996) Perinatal, home environment, and infant measures as successful predictors of preschool cognitive and verbal abilities. *International Journal of Behavioural Development* 19(1): 101-19
Mooney, A. and Munton, A. (1997) *Research and Policy in Early Childhood Services: Time for a New Agenda* London: University of London IoE Thomas Coram Research Unit
Mooney, A., Knight, A., Moss, P. and Owen, C. (2001) A profile of childminding: implications for planning *Children and Society* 15: 253-62
Moreno, E. (1993) Healthy families make healthy babies. *World Health* 3, May-June 1993: 23-25.
Morss, J. (1990) *The Biologising of Childhood.* Hove: Lawrence Erlbaum Associates
Mortimer, H. (2001) *Special Needs and Early Years Provision.* London: Continuum
Morton, N. and Browne, K.D. (1998) Theory and observation of attachment and its relation to child maltreatment: a review. *Child Abuse and Neglect* 22(11): 1093-1104
Moses, L.J., Baldwin, D.A., Rosicky, J.G. and Tidball, G. (2001) Evidence for referential understanding in the emotions domain at twelve and eighteen months. *Child Development* 72(3): 718-35

Moss, P. (1990) Work, family and the care of children: equality and responsibility. *Children and Society* 4(2): 145-66
Moyles, J. (2002) Face to face with Susan Greenfield. *Interplay* Summer 2002*:* 20-22
Murray, L. and Andrews, E. (2000) *Social Baby*. London: Richmond Press
Murray, L. and Cooper, P.J. (1997) Postpartum depression and child development. *Psychological Medicine* 27(2): 253-60
Murray, L. and Trevarthen, C. (1985) Emotional regulation of interactions between two-month-olds and their mothers. In T.M. Field and N.A. Fox (eds) *Social Perception in Infants* Norwood, NJ: Ablex pp.177-97
Murray, L., Fiori-Cowley, A., Hooper, R. and Cooper, P. (1996) The impact of postnatal depression and associated adversity on early mother-infant interactions and later infant outcome. *Child Development* 67(5): 2512-26
Myers, H.F. and Taylor, S. (1998) Family contributions to risk and resilience in African American children. *Journal of Comparative Family Studies* 29(1):215-29
Nakamura, W.M., Stewart, K.B. and Tatarka, M.E. (2000) Assessing father-infant interactions using the NCAST teaching scale: a pilot study. *American Journal of Occupational Therapy* 54(1): 44-51
National Association for Special Educational Needs (1999) *Policy document on Early Years* Tamworth: NASEN
National Heart Forum (2002) *Towards a generation free from coronary heart disease. Policy action for children's and young people's health and well-being.* London: National Heart Forum
Nelson, C. (1987) The recognition of facial expressions in the first year of life: mechanisms of development. *Child Development* 48: 854-61
Nelson, C. (1999) Neural Plasticity and Human Development. *Current Directions in Psychological Science* 8(2): 42—45.
Nelson, C. and Bloom, F. (1997) Child Development and Neuroscience. *Child Development* 68(5): 970-87.
Nelson, K. (ed) (1985) *Children's Language.* Hillsdale NJ: Erlbaum
Nelson, K. (1986) *Event knowledge, structure and function in development*: Hillsdale NJ: Erlbaum
Nelson, K. (1999) The developmental psychology of language and thought. In M.Bennett (ed) *Developmental Psychology.* London: Taylor and Francis pp.185-204
New Zealand Ministry of Education (1996) *Te Whariki.* Wellington, NZ: Learning Media Ltd
Newson, E. and Newson, J. (1979) *Toys and Playthings.* London: Penguin
Newson, J. and Newson, E. (1963) *Patterns of Infant Care in an Urban Community.* Harmondsworth: Penguin
NICHD Early Childhood Research Network (1996) Characteristics of infant child care: factors contributing to positive care-giving. *Early Childhood Research Quarterly* 11: 269-306
Norman, K. (ed) (1992) *Thinking Voices.* Sevenoaks: Hodder and Stoughton

NSPCC (2000) *Protecting Babies from Harm: The Professional's Response* London: NSPCC

Nutbrown, C. (1994) *Threads of Thinking.* London: Paul Chapman

Nuttall, W. (1999) The effects of posture on learning: insights from the Alexander Technique. *Early Years* 20(1): 65-76

Odofsky, J.D. (ed) (1987) *Handbook of Infant Development.* New York: Wiley

OECD (2001) *Starting Strong: Early Childhood Education and Care* Paris: OECD

Opie, I. and Opie, P. (1959) *The Lore and Language of Schoolchildren*. Oxford: Oxford University Press

Osborn, A.F. (1990) Resilient children: a longitudinal study of high achieving socially disadvantaged children. *Early Child Development and Care* 62: 23-47

Oyserman D, Radin, N. and Saltz, E. (1994) Predictions of nurturant parenting in teen mothers living in three generational families. *Child Psychiatry and Human Development* 24(4): 215-30

Pahl, K. (1999) *Transformations : Children's Meaning Making in a Nursery.* Stoke on Trent: Trentham Books

Pahl, K. (2001) Texts as artefacts crossing sites: map making at home and school. *Reading* 35(3): 120-125

Papoušek, M., Papoušek, H. and Harris, B.J. (1987) The emergence of play in parent-infant interactions. In D.Görlitz and J.F.Wohlwill (eds) *Curiosity, Imagination and Play.* Hillsdale NJ: Lawrence Erlbaum pp.214-246

Parke, T. and Drury, R. (2001) Language development at home and school: gains and losses in young bilinguals. *Early Years* 21(2): 117-127

Parkes, C.M., Stevenson-Hinde, J. and Marris, P. (eds) (1996) *Attachment Across the Life Cycle.* (2nd edition). London: Routledge

Patel, P., Mendall, M.A., Khulusi, S., Northfield, T.C. and Strachan, D.P. (1994) Heliobacter pylori infection in childhood: risk factors and effect on growth. *British Medical Journal* 309: 1119-23

Pearl, M., Braveman, P. and Abrams, B. (2001) The relationship of neighbourhood socio-economic characteristics to birth weight among five ethnic groups in California. *American Journal of Public Health* 91: 1808-14

Pedro-Carroll, J. (2001) The promotion of wellness in children and families: challenges and opportunities. *American Psychologist* 56(11): 993-1004

Penn, H. (2001) Research in the Majority World. In T.David (ed) *Advances in Applied Early Childhood Education. Vol. 1. Promoting Evidence-Based Practice in Early Childhood Education.* London: JAI/ Elsevier pp.289-308

Perner, J. (1999) Theory of Mind. In M.Bennett (ed) *Developmental Psychology.* London: Taylor and Francis pp.205-230

Perry, B.D. (1994) Neurobiological sequelae of childhood trauma: post-traumatic stress disorders in children. In M.Murberg (ed) *Catecholamine function in post-traumatic stress disorder: emerging concepts* Washington DC: American Psychiatric Press pp.233-55

Petrie, P. (1997) *Communicating with Children and Adults: Interpersonal Skills for Early Years and Play Work*. 2nd edition. London: Arnold

Piaget, J. (1932) *The Moral Judgement of the Child.* London: Routledge and Kegan Paul

Piaget, J. (1955) *The Language and Thought of the Child.* London: Routledge and Kegan Paul

Piaget, J. (1962) *Play, Dreams and Imitation in Childhood.* New York: Norton

Pierce, D. (2000) Maternal Management of the Home as a Developmental Play Space for Infants and Toddlers. *The American Journal of Occupational Therapy* 54: 290-299

Plomin, R. and Bergeman, C.S. (1991) The nature of nurture: genetic influence on "environmental" measures. *Behavioural and Brain Sciences* 14: 373-427

Pollack, S.D., Cicchetti, D., Hornung, K. and Reed, A. (2000) Recognizing emotion in faces: developmental effects of child abuse and neglect. *Developmental Psychology* 36(5): 679-88

Polnay, L. and Hull, D. (1998) *Community Paediatrics.* London: Churchill Livingstone

Post, J. and Hohmann, M. (2000) *Tender Care and Early Learning, Supporting Families and Toddlers in Childcare Settings*. Michigan: High/Scope Press

Powell, G.J. (1985) Self-concepts among Afro-American students in racially isolated minority schools: some regional differences. *Journal of the American Academy of Child Psychiatry* 24: 142-9

Powell, J. (1997) Who is listening? Protecting young children from abuse. In L.Abbott and H.Moylett (eds) *Working with Under Threes: Training and Professional Development .* Buckingham: Open University Press pp. 129-140

Pridham, K., Becker, P. and Brown, R. (2000) Effects of infant and care-giving conditions on an infant's focused exploration of toys. *Journal of Advanced Nursing* 31(6):1439-1448

Pridmore, P. and Stephens, D. (2000) *Children as Partners for Health: A critical review of the child-to-child approach*. London: Zed Books.

Pugh, G. and Selleck, D. (1996) Listening to and Communicating with Young Children. In Diane, R., Upton, G. and Varma, V. (eds) *The Voice of the Child: A Handbook for Professionals*. London: Falmer Press pp.120-36

Pugh, G., De'Ath, E. and Smith, C. (1994) *Confident Parents, Confident Children: Policy and Practice in Parent Education and Support.* London: NCB

Raban, B., Waniganayake, M., Deans, J., Brown, R., Ure, C. and Reynolds, B. (2002) Describing quality in practice: developing a framework. Paper presented at the *10th Australian Research in Early Childhood Education Annual Conference*, Canberra January 2002

Raikes, H. (1996) A secure base for babies: applying attachment concepts to the infant care setting. *Young Children* 51(5): 59-67

Ramey, C.T. and Ramey, S.L. (1998) Early intervention and early experience. *American Psychologist* 53(2): 109-20

Rayna, S. (2001) The very beginnings of togetherness in shared play among young children. *International Journal of Early Years Education* 9(2): 109-15

Read, J. (2000) *Disability, the Family and Society: Listening to Mothers.* Buckingham: Open University Press

Reading, R., Colver, A., Openshaw, S. and Jarvis, S. (1994) Do interventions that improve immunisation uptake also reduce social inequalities? *British Medical Journal* 308: 1142-4

Rhein, L.M., Ginsburg, K.R., Schwarz, D.F., Pinto-Martin, J.A., Zhao, H., Morgan, A.P. and Slap, G.B. (1997) Teen father participation in child rearing: family perspectives. *Journal of Adolescent Health* 21: 244-52

Richman, N. (1978) Depression in mothers of young children. *Journal of the Royal Society of Medicine* 71: 489-93

Richman, N., Stevenson, J. and Graham, P.J. (1982) *Preschool to school a behavioural study*. London: Academic Press

Roberts, H. (2001) *What Works in Reducing Inequalities in Child Health.* London: Barnado's

Roberts, H. (2001a) Fit or fat? *Coordinate* 81: 12-13

Roberts, I. and Pless, B. (1993) Social policy as a cause of childhood accidents: the children of lone mothers. *British Medical Journal* 311: 925-8

Roberts, I. and Power, C. (1996) Does the decline in child injury mortality vary by social class? A comparison of class specific mortality in 1981-1991. *British Medical Journal* 313: 784-6

Roberts, R. (2002) *Developing Self-esteem in Young Children.* London: Paul Chapman/Sage

Robertson, J. and Roberston, J. (1989) *Separation and the Very Young.* London: Free Association Press

Robinson, J.L. and Acevedo, M.C. (2001) Infant reactivity and reliance on mother during emotion challenges: prediction of cognitive and language skills in a low-income sample. *Child Development* 72(2): 402-15

Robinson, K. (2001) *Out of Our Minds: Learning to Be Creative.* Oxford: Capstone

Rochat, P., Querido, J.G. and Striano, T. (1999) Emerging sensitivity to the timing and structure of protoconversation in early infancy. *Developmental Psychology* 35(4): 950-7

Rodd, J. (1996) *Understanding Young Children's Behaviour.* London: Allen and Unwin

Rosen, H. (1988) *Stories and Meanings.* London: NATE

Rosenthal, M.K. (2000) Quality in early childhood education and care: a cultural context. Keynote address, Symposium Curriculum, Policies and Practices in Early Childhood Education, Malta, 28 Nov – 3 Dec. 2000

Rosser, R. (1994) *Cognitive Development: Psychological and Biological Perspectives.* Needham Heights Mass: Allyn and Bacon

Rossiter, J.C. (1998) Promoting breast feeding: the perceptions of Vietnamese mothers in Sydney, Australia. *Journal of Advanced Nursing* 28(3): 598-605

Rouse Selleck, D. (1995) *Managing to Change. Module 4: Playing and Learning.* London: National Children's Bureau

Rutter, M. (1972) *Maternal Deprivation Reassessed.* Harmondsworth: Penguin

Rutter, M. (1989) Pathways from childhood to adult life. *Journal of Child Psychology and Psychiatry* 30: 23-51

Rutter, M. (1995) Clinical implications of attachment concepts: retrospect and prospect. *Child Psychology and Psychiatry* 36(4): 549-571

Rutter, M. (1999) Psychosocial adversity and child psychopathology. *British Journal of Psychiatry* 174: 480-93

Rutter, M. (2000) Children in substitute care: some conceptual considerations and research implications. *Children and Youth Services Review* 22(9/10): 685-703

Rutter, M. and the English and Romanian Adoptees (ERA) Study Team (1998) Developmental catch-up, and deficit, following adoption after severe global early privation. *Journal of Child Psychology and Psychiatry* 39: 465-473

Sameroff, A.J. (1993) Models of development and developmental risk. In C.H.Zeanah, Jnr. (ed) *Handbook of Infant Mental Health.* New York: Guildford Press pp.3-13

Schaffer, H.R. (1998) *Making Decisions about Children: Psychological Questions and Answers.* Oxford: Blackwell

Schieffelin, B.B. and Ochs, E. (1986) *Language Socialisation across Cultures.* Cambridge: Cambridge University Press

Schuler, M.E., Black, M.M. and Starr, R.H. (1995) Determinants of mother-infant interaction: effects of prenatal drug exposure, social support, and infant temperament. *Journal of Clinical Child Psychology* 24(4): 397-405

Schweinhart, L., Barnes, H. and Weikart, D. (1993) *The High/ Scope Perry Preschool Study through Age 27*. Michigan: High/Scope Press

Seifer, R. and Sameroff, A.J. (1986) The concept, measurement and interpretation of temperament in young children. *Advances in Developmental and Behavioral Pediatrics* 7:1- 43

Seifer, R., Clark, G.N. and Sameroff, A.J. (1991) Positive effects of interaction coaching on infants with developmental disabilities and their mothers. *American Journal on Mental Retardation* 96: 1-11

Selleck, D. and Griffin, S. (1996) Quality for the under threes. In G.Pugh (ed) *Contemporary Issues in the Early Years.* (2nd edition). London: Paul Chapman/Sage pp.152-169

Selwyn, J. (2000) Infancy. In M.Boushel, M.Fawcett and J.Selwyn (eds) *Focus on Early Childhood: Principles and Realities.* Oxford: Blackwell pp.35-48

Sendak, M. (1970) *Where the Wild Things Are.* Harmondsworth: Penguin

Shonkoff, J. and Phillips, D. (2000) *From Neurons to Neighbourhoods: The Science of Early Childhood Development*. Washington: National Academy Press.
Shore, R. (1997) *Rethinking the Brain: New Insights into Early Development*. New York: Families and Work Institute
Siegel, D. (1999) *The Developing Mind.* New York: Guilford
Sims, M., Hutchins, T. and Taylor, M. (1997) Conflict as social interaction: building relationship skills in child care settings. *Child and Youth Care Forum* 26(4): 247-60
Sinclair, H. (1971) Sensorimotor action patterns as the condition for the acquisition of syntax. In R.Huxley and E.Ingrams (eds) *Language Acquisition: Models and Methods.* Academic Press pp. 121-36
Singer, E. (1992) *Child Care and the Psychology of Development.* London: Routledge
Singer, E. (1993) Shared care for children. *Theory and Psychology* 3(4): 129-49
Singer, E. (1998) Shared care for children. In M.Woodhead, D.Faulkner and K.Littleton (eds) *Cultural Worlds of Early Childhood.* London: Routledge/ Open University pp.64-83
Singer, E. (2001) The logic of young children's (nonverbal) behavior. Keynote Address, European Early Childhood Educational Research Association conference, Hogeschool Alkmaar, The Netherlands, 29 August – 1 September 2001
Siraj-Blatchford, I. (2001) Diversity and learning in the early years. In G.Pugh (ed) *Contemporary Issues in the Early Years.* (3rd edition). London: Paul Chapman/Sage with Coram Family pp.96-108
Siraj-Blatchford, I. and Clarke, P. (2000) *Supporting Identity, Diversity and Language in the Early Years.* Buckingham: Open University Press
Skinner, B.F. (1938) *The Behaviour of Organisms.* Englewood Cliffs NJ: Prentice-Hall
Slobin, D.I. (ed) (1985) *The Cross-linguistic Study of Language Acquisition. Vol2: Theoretical Issues.* Hillsdale NJ: Erlbaum
Smith, A. (1999) Quality childcare and joint attention. *International Journal of Early Years Education* 7(1): 85-98
Smith, A.B., Grima, G., Gaffney, M. and Powell, K. with Masse, L. and Barnett, S. (2000) *Early Childhood Education. Literature Review Report to the Ministry of Education.* Dunedin: New Zealand Ministry of Education
Smith, C. (1996) *Developing Parenting Programmes.* London: NCB
Smith, C. and Pugh, G. (1996) *Learning to be a Parent: a Survey of Parenting Programmes.* London: Family Policy Studies Centre
Smith, G.C.S. and Pell, J.P. (2001) Teenage pregnancy and risk of adverse perinatal oputcomes associated with first and second birth: population based retrospective cohort study. *British Medical Journal* 323: 476-9
Smith, K.E., Landry, S.H., Swank, P.R. and Baldwin, C.D. (1996) The relation of medical risk and maternal stimulation with pre-term infants'

development of cognitive, language and daily living. *Journal of Child Psychology and Psychiatry and Allied Disciplines 37(7*): 855-64
Smokowski, P.R. (1998) Prevention and intervention strategies for promoting resilience in disadvantaged children. *Social Science Review* 72(3): 337-64
Smolucha, F. (1991) Social origins of private speech in pretend play. In R.M.Diaz and L.E.Berk (eds) *Private Speech: From Social Interaction to Self-regulation*. Hillsdale NJ: Erlbaum pp.123-41
Snow, C.E. (1977) The development of conversation between mothers and babies. *Journal of Child Language* 4: 1-22
Snow, C.E. and Ferguson, C.A. (eds) (1977) *Talking to Children.* Cambridge: Cambridge University Press
Spencer, M.B. (1985) Cultural cognition and social cognition as identity factors in black children's personal-social growth. In M.B.Spencer, G.K.Brookins and W.R.Allen (eds) *Beginnings: the Social and Affective Development of Black Children.* Hillsdale NJ: Erlbaum pp.215-30
Spencer, N. (2000) *Poverty and Child Health.* Oxford: Radcliffe Medical Press
Spencer, N., Bamburg, S., Logan, S. and Leicester, G. (1999) Socio-economic status and birth weight: comparison of an area-based measure with the Registrar General's Social Class. *Journal of Epidemiology and Community Health* 53: 4995-498
Spencer, N., Lewis, M.A. and Logan, S. (1993) Multiple admission and deprivation. *Archives of Disease in Childhood* 68: 760-2
Steele, M., Steele, H. and Fonagy, P. (1995) Associations among attachment classifications of mothers, fathers and infants. *Child Development* 67: 541-55
Stern, D.N. (1974) The goal and structure of mother-infant play. *Journal of the American Academy of Child Psychiatry* 13: 402-21
Stern, D.N. (1977) *The First Relationship: Mother and Infant.* Cambridge Mass: Harvard University Press
Stern, D.N. (1985) *The Interpersonal World of the Infant.* New York: Basic Books
Stevenson, J. (ed) (1985) *Recent Research in Developmental Psychopathology.* Oxford: Pergamon
Striano, T. and Rochat, P. (1999) Developmental Link Between Dyadic and Triadic Social Competence in Infancy. *British Journal of Developmental Psychology* 17: 551-562
Suess, G.J., Grossman, K.E. and Sroufe, L.A. (1992) Effects of infant attachment to mother and father on quality of adaptation to preschool. *International Journal of Behavioural Development* 15: 43-65
Sunday Times (2002) Stars join Hornby in MMR crusade. *The Sunday Times* 23 June. p.9
Tabors, P.O. (1997) *One Child, Two Languages: a Guide for Preschool Educators of Children Learning English as a Second Language.* Baltimore MD: Paul Brookes Publishing

Taylor, J. and Daniel, B. (1999) Interagency practice in children with non-organic failure to thrive: is there a gap between health and social care? *Child Abuse Review* 8(5): 325-38

Tebes, J.K., Kaufman, J.S., Adnopoz, J. and Racusin, G. (2001) Resilience and family psychosocial processes among children of parents with serious mental disorders. *Journal of Child and Family Studies* 10(1): 115-36

Teti, D.M. and Gelfand, D.M. (1991) Behavioural competence among mothers of infants in the first year: the mediational role of maternal self efficacy. *Child Development* 62: 918-29

Teti, D.M., Wolfe Sakin, J., Kucera, E. and Corns, K.M. (1996) And baby makes four: predictors of attachment sevcurity among preschool-age firstborns during the transition to siblinghood. *Child Development* 67(2): 579-96

The Times (1995) Editorial:Three kind mice. *The Times* 12 September. p.17

Thiessen, I. (1993) The impact of divorce on children. *Child Development and Care* 96: 19-26

Thomas, R.M. (1996) *Comparing Theories of Child Development.* Pacific Grove CA: Brooks/Cole Publishing

Thompson, L. (1999) *Young Bilingual Learners at Nursery School.* Clevedon: Multilingual Matters

Thompson, M., Petticrew, M. and Morrison, D. (2001) Health effects of housing improvement: systematic review of intervention studies. *British Medical Journal* 323: 187-90

Thompson, R. (1991) Emotional regulation and emotional development. *Educational Psychology Review* 3: 269-307

Tillery, K.L., Katz, J. and Keller, W.D. (2000) Effects of methylphenidate (Ritalin) on auditory performance in children with attention and auditory processing disorders. *Journal of Speech, Language and Hearing Research* 43(4): 893-901

Tite, R. (1993) How teachers define and respond to child abuse. The distinction between theoretical and reportable cases. *Child Abuse and Neglect* 17(5): 591-603

Tizard, B. and Hughes, M. (1984) *Young Children Learning.* London: Fontana

Townsend, P. and Davidson, N. (eds) (1982) *The Black Report.* Harmondsworth: Penguin

Travis, A. (2002) Three out of four parents favour single jabs for MMR. *Guardian Unlimited*. Available at http://www.guardian.co.uk (accessed 9 April 2002).

Trevarthen, C. (1995) The child's need to learn a culture. *Children and Society* 9(1): 5-19

Trevarthen, C. (2000) Early childhood brain research. Keynote address, *BAECE-OMEP National Brainwaves Conference,* Warwick University, November 2000

Trevarthen, C. and Aitken, K.J. (2001) Infant intersubjectivity: research, theory, and clinical applications. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 42(1): 3-48

Trevarthen, C., Aitken, K., Papoudi, D. and Robarts, J. (1998) *Children with Autism: Diagnosis and Interventions to Meet their Needs.* London: Jessica Kingsley

Tronick, E.Z., Morelli, G.A. and Ivey, P.K. (1992) The Efe Forager infant and toddler's pattern of social relationships: multiple and simultaneous. *Developmental Psychology* 28: 568-77

Underdown, A. (2000) *When feeding fails: parents' experiences of faltering growth.* London: The Children's Society

United Nations (1989) *United Nations Convention on the Rights of the Child.* Geneva: UN

Utting, D. (1995) *Family and Parenthood. Supporting families, preventing breakdown*. York: Joseph Rowntree Foundation

Van Enk, A., Britendeidijk, S.E., van der Paul, K.M., van Eck, W.J.J. and Schulpen, T.W.J. (1998) Perinatal death in ethnic minorities in the Netherlands. *Journal of Epidemiology and Community Health 52:735-9*

Volling, B.L. and Belsky, J. (1992) Infant, father and marital antecedents of infant-father attachment security in dual-earner and single-earner families. *International Journal of Behavioural Development* 15: 83-100

Vondra, J.A., Barnett, D. and Cicchetti, D. (1989) Perceived and actual competence among maltreated and comparison school children. *Development and Psychopathology* 1: 237-255

Vondra, J.A., Barnett, D. and Cicchetti, D. (1990) Self-concept, motivation and competence among preschoolers from maltreating and comparison families. *Child Abuse and Neglect* 14: 525-40

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

Vygotsky, L.S. (1986) *Thought and Language.* Cambridge Mass: MIT Press

Wachs, T. (2000) Nutritional deficits and behavioural development. *International Journal of Behavioural Development* 24(4): 435-441.

Wade, B. and Moore, M. (1993) *Bookstart.* London: Book Trust

Wade, B. and Moore, M. (1996) Children's early book behaviour. *Educational Review* 48: 283-8

Wade, B. and Moore, M. (2000) A sure start with books. *Early Years* 20(2): 39-46

Wadsworth, J., Burnell, J., Taylor, B. and Butler, N. (1983) Family type and accidents in preschool children. *Journal of Epidemiology and Community Health* 37: 100-104

Walker, J. (1989) The behaviour of 3-year-old children who were born pre-term. *Child: care, health and development* 15: 297-313

Walker-Andrews, A.S. (1997) Infants' perception of expressive behaviours: differentiation of multimodal information. *Psychological Bulletin* 121(3): 437-56

Walker-Hall, J. and Sylva, K. (2001) What works for families of children with behaviour problems? Evidence from research. In G.Pugh (ed) *Contemporary Issues in the Early Years.* London: Paul Chapman/Sage with Coram Family pp.161-76

Wall, K. (2003) Special Needs and Early Years: a Practitioner's Guide. London: PCP/Sage

Walsh, K. (2002) Early childhood teachers and child abuse: a critical study of their work and knowledge. Unpublished PhD thesis Brisbane, Aus: Queensland University of Technology

Walsh, S.S. and Jarvis, S.N. (1992) Measuring the frequency of 'severe' accidental injury in childhood. *Journal of Epidemiology and Community Health* 46: 26-32

Ward, S. (2000) *Babytalk.* London: Century

Wasserman, C.R., Shaw, G.M., Selvin, S., Gould,J.B. and Syme, S.L. (1998) Socio-economic status, neighbourhood social conditions and neural tube defects. *American Journal of Public Health* 88: 1674-80

Watson, R.J. (1994) Affective tone in a toddler measured during transitions between multiple care-givers. *Early Child Development and Care* 97:135-44

Webb, E., Shankleman, J., Evans, M.K. and Brooks, R. (2001) The health of children in refuges for women victims of domestic violence: a cross sectional descriptive survey. *British Medical Journal* 323: 210-3

Webb, S., Monk, C. and Nelson, C (2001) Mechanisms of Postnatal Neurobiological Development: Implications for Human Development. *Developmental Neuropsychology* 19(2): 147-171.

Weir, R.H. (1962) *Language in the Crib* The Hague: Mouton and Company

Weiss, S.J., Wilson, P., Seed, M.S.J. and Paul, S.M. (2001) Early tactile experience of low birth weight children: links to later mental health and social adaptation. *Infant and Child Development* 10(3): 93-115

Wells, G. (1986) *The Meaning Makers: children learning language and using language to learn.* London: Hodder and Stoughton

Wells, G. (1987 *The Meaning Makers.* Sevenoaks: Hodder and Stoughton

Werner, E.E. (1996) Vulnerable but Invincible: high risk children from birth to adulthood. *European Child and Adolescent Psychiatry* 5 (Suppl. 1): 47-51

West, D. (2000) Paedophilia: plague or panic? *Journal of Forensic Psychiatry* 11(3): 511-31

Westbrook, J. (1999) Two points of view: young children's literacy development in print and the audio visual image. *International Journal of Early Childhood* 31(2): 37-44

Whaley,K.L. and Rubenstein, T.S. (1994) How toddlers 'do' friendship: a descriptive analysis of naturally occurring friendships in a group child care setting. *Journal of Social and Personal Relationships* 11(3): 383-400

Whalley, M. and the Pen Green Centre Team (2000) *Involving Parents in their Children's Learning.* London: PCP/Sage

Whipple, E.E. (1999) Reaching families with preschoolers at risk of physical child abuse: what works? *Families and Society* 80(2): 148-60

White, D. and Woollett, A. (1992) *Families: a Context for Development.* London: Falmer Press
Whitehead, M. (1996) *The Development of Language and Literacy.* London: Hodder and Stoughton
Whitehead, M. (1999) *Supporting Language and Literacy Development in the Early Years.* Buckingham: Open University Press
Whitehead, M. (2002) *Developing Language and Literacy with Young Children.* London: Paul Chapman/Sage
Wijnroks, L. (1998) Early maternal stimulation and the development of cognitive competence and attention of pre-term infants. *Early Development and Parenting* 7(1): 19-30
Wilson, R. (1998) *Special Educational Needs in the Early Years.* London: Routledge
Winnicott, D. W. (1964) *The Child, the Family and the Outside World.* Harmondsworth: Pelican
Winnicott, D. W. (1971) *Playing and Reality.* London: Routledge
Wolfendale, S. (ed) (2000) *Special Educational Needs in the Early Years: Snapshots of Practice.* London: Routledge/Falmer
Woodhead, M. (1990) Psychology and the cultural construction of children's needs. In A. James and A.Prout (eds) *Constructing and Reconstructing Childhood.* London: Falmer Press pp.60-77
Woodhead, M. (1999) Reconstructing developmental psychology. *Children and Society* 13(1): 3-19
Woodroffe, C., Glickman, M., Barker, M. and Power, C. (1993) *Children, Teenagers and Health: Key Data*. Buckingham: Open University Press
Worchel, F.F. and Allen, M. (1997) Mothers' ability to discriminate cry types in low-birthweight premature and full-term infants. *Children's Health Care* 26(3): 183-95
Wynn, K. (1992) Addition and subtraction by human infants. *Nature* 358: 749-50
Zeanah, C.H.Jr, (ed)(1993) *Handbook of Infant Mental Health*. New York: The Guilford Press.
Zimmer-Gembeck, M.J. and Helford, M. (1996) Low birth weight in a public prenatal care program: behavioural and psychosocial interventions. *Social Science Medicine* 43: 187-97

Appendix 1
Methodology – how the literature review was carried out

Recently there have been many debates about appropriate methodology for conducting rigorous reviews of research literature relevant to a particular topic and the work for this project's review of research took account of those debates. In two particular respects, however, it was not possible to follow the very thorough approach advocated by the EPPI (Evidence for Policy and Practice) project (see Budge 2002). Firstly, the research 'question' could not be refined to cut down potential entries or areas to be explored by the review, because the focus (the development of children aged between birth and three years) was already set and extremely wide. The second factor which limited our team's ability to follow the EPPI guidelines was the limited time available, which meant that it was not possible for more than one team member to read each piece of evidence. However, the overall project team, and Steering and Working Group members, were familiar with much of the material sourced. In fact they and other colleagues, including many in other countries, recommended texts to the review team.

The first task was to compile a list of key words and terms likely to generate published information about children's development during the years from birth to age three (see Table 1 below). Other terms – for example ADHD, Ritalin, were later added to this extensive first trawl.

A second list made up of the names of relevant data bases and journals was also compiled. This included:- ASSIA; BIDS; British Humanities Index; Medline; ERIC; PsysINFO; Social Science Citation Index; OVID Biomed; BEI; IBSS /BIDS; BHI; Science Citation Index; BookFind-Online; Caredata; BOPCAS; MMU, London IoE, and CCCUC library catalogues; NCB library catalogue; Blackwells, PCP/Sage, and other relevant publishers' on-line catalogues. In order to ensure that the team did not duplicate searches, the list of data bases was divided up and team members were to exchange references they might find relating to areas of the review which were the responsibility of another member of the team. To facilitate common approaches to reading selected articles and books, a pro forma was devised (see below). The pro forma was used to check the relevance and rigour of a source, as well as its potential contribution to the review. Having scoured the titles and abstracts highlighted by these varied data bases, each team member saved the results to computer disk, with the intention of using this second phase to eliminate less relevant or overly repeated entries. The full texts of those titles and abstracts which remained were then followed up by the team member with responsibility for writing the first draft of a particular Component. In addition, colleagues on the teams at the two Higher Education Institutions (HEIs - Manchester Metropolitan University and Canterbury Christ Church University College), the project Steering and

Working Groups, and those in the UK and abroad, who might know of key texts, were also contacted for reference suggestions.

Table 1: Initial list of key search terms

People focused	**Age focused**	**Issue focused**
Infant Baby/Babies Neonate Toddler Parent Mother Father Sister Brother Sibling Grandparent Staff Educator/s Carer Minder/childminder/child-minder Nanny/ies Au pair Family/ies Adult Health visitor Nurse Doctor others????? **/setting focused** Day care/day care Preschool/ Pre-school Nursery Library/ies Sports (centre) Parent and toddler	Under one Under Two (*to search for research on two-year-olds*) Three Under five /six Toddler (obviously a few in the 'people' column would also do this eg baby, neonate)	Brain Neuro- Development Growth person/al Physical Emotion/al Social Cognitive/intellectual/understand Language/linguistic/bilingual/multiling Talk Play Literacy Communication etc Negotiation, etc Imagination Self-esteem Learning Curriculum Creative/etc Relations(- ships) Snuggling Belong Safe/ protect/abuse Esteem Competent Voice Identity Moral Spiritual Cultural maths/mathematics/number etc music art science world (K&U of World?) holistic Pedagog(y-ista-ue) Resource/s Environment SEN Disability Ethnic

		Race/racial Gender Boy/girl Equal (opportunity/ies) Health Poverty Policy Politic Rights Continuity Interaction Training Qualifications Conditions

The results from the data bases were in some cases surprising. For example one nursing data base appeared to have no references to neonates. In other cases the results were so vast they were impossible to cover. Others were manageable but still larger than one would normally expect to be dealt with in one review which includes a large number of foci. For example, the terms *resilience and risk* produced 375 references from one data base alone, of which 91 were selected for downloading. Thirty-nine were used subsequently in this literature review. The question of which to de-select was made on the basis of relevance and often it was a matter of using one's knowledge and experience in the field to further discriminate between those which would be most useful and those which were subsidiary.

In many cases what surprised the review team was the overall support which different pieces of research lent to the general picture which was emerging. Generally, disagreements between researchers seemed to be more concerned with methodology or research approaches and the validity of previous studies, rather than about the main findings concerning children's development and learning in this age group. In the event, because of time constraints, the pro forma was used simply as an aide memoire and notes were written beside the data base printouts, or attached to hard copies of articles.

As each team member gathered information she would add it to a draft section, concerned with a particular Component of the Framework for which she was responsible. As a result of the very broad coverage of the literature review, there were some topics which received less attention than others. However, it must be said that there are, in any case, certain topics which appear have been relatively neglected by research (see later).

The initial drafts of all the sections of the literature review were finally put together by one member of the team, who also incorporated the relevant quotations and definitions from the Framework itself. These links were made in order to help readers readily recognise the connections between the

Aspects and Components of the Framework and the chapters and sections of the literature review.

The first draft of the review was sent out to members of the Steering and Working Groups and to the MMU team members, and two colleagues at Canterbury Christ Church UC provided a helpful commentary on the review, to strengthen its inclusiveness of young children with special needs.

Since the review is intended for use mainly by practitioners, it would have been ideal had time allowed for it to be read at this stage by a sample of practitioner colleagues, so augmenting the practitioner representation on the Working Group who received the draft. However, time was very short, and this meant that when all the suggested amendments had been received, the text was redrafted and reviewed only by DfES colleagues, two members of the Working Group, and the project Director, Professor Lesley Abbott.

We would hope that this literature review would complement others (for example, BERA Early Years Special Interest Group in press). One of the 'messages' from any research review concerns the 'gaps' which have been identified. Both this review and that for the British Educational Research Association's Early Years SIG, covering curriculum, pedagogy and training (largely for the 3-6 year old age group but including a section on babies and young children) have highlighted the paucity of research on the processes and practices of ECEC for children from birth to three. In particular the field needs research information about ECEC and children in this age group, especially that about two year olds; young children's spiritual and moral development, and the impact of practitioner training on children's and parents' experiences of ECEC.

Work on this review of research literature proved an exciting but huge task, because the team had been asked to focus on research and other literature concerned with the development of children aged from birth to three. This area is covered by researchers working in many different disciplines and the team was well rewarded in terms of the quantity of published articles, reports and books available. This meant, however, that as a result of this cornucopia of work focusing on the children themselves, some allied research areas, such as that on parenting and projects to increase parental empowerment, for example, could not be covered, owing to limits on both time and space. Staff training too could be helpfully reviewed at another time and the DfES's current initiatives evaluating new training opportunities for the field are positive developments. Further, although multiprofessional working, like early intervention, is touched upon, it is not possible for these aspects to be covered comprehensively here. However, readers can turn to other relevant research and reviews by using the reference list provided with this text.

BIRTH TO THREE MATTERS

PROFORMA FOR THE LITERATURE REVIEW

Reviewer id + number of review ……

Data base search/ source……..

Key search terms……..

Publication info

Author/s

Date of publication

Title

Book title if a chapter & editors/ Journal name

Publisher (book)

Place of publication

Page numbers (of article or chapter)

ISBN/ISSN

Details

Discipline/ area

Country/ies involved

Type of literature (eg. meta-analysis; 'issues ' book; text for practitioners; popular jnl/periodical; acad journal; professional journal; etc) ……..

Type of research (eg quantitative, qualitative, …paradigm espoused/philos of authors if given or identifiable)

Methods used (methods, sample size, age range, socio-econ info, etc)

Focus of study (eg. emotional development)

Relevant for which Aspect / Component of the pack (eg A1, B3, etc)[3]

Criteria (tick or make notes)

- Minimises possible bias
- Has external validity/ authenticity
- Conclusions fit data, sufficient evidence
- Has been assessed by others (eg refereed for journal, peer review, public domain)
- Generalisations have been made only where/when appropriate

Resumé of relevant findings

Useful quote and page no.

[3] A= A Strong Child; B= A Skilful Communicator; C= A Competent Learner; D= A Healthy Child. Thus A1= Me, myself and I, and so on.

Appendix 2
The *Birth to Three Matters* Framework Introduction and Cards

by

Lesley Abbott, Ann Langston, Janet Ackers, Ian Baron, Caroline Bradbury, Rachel Holmes, Mike Johnson

Copies of this publication can be obtained from:

DfES Publications
P.O. Box 5050
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