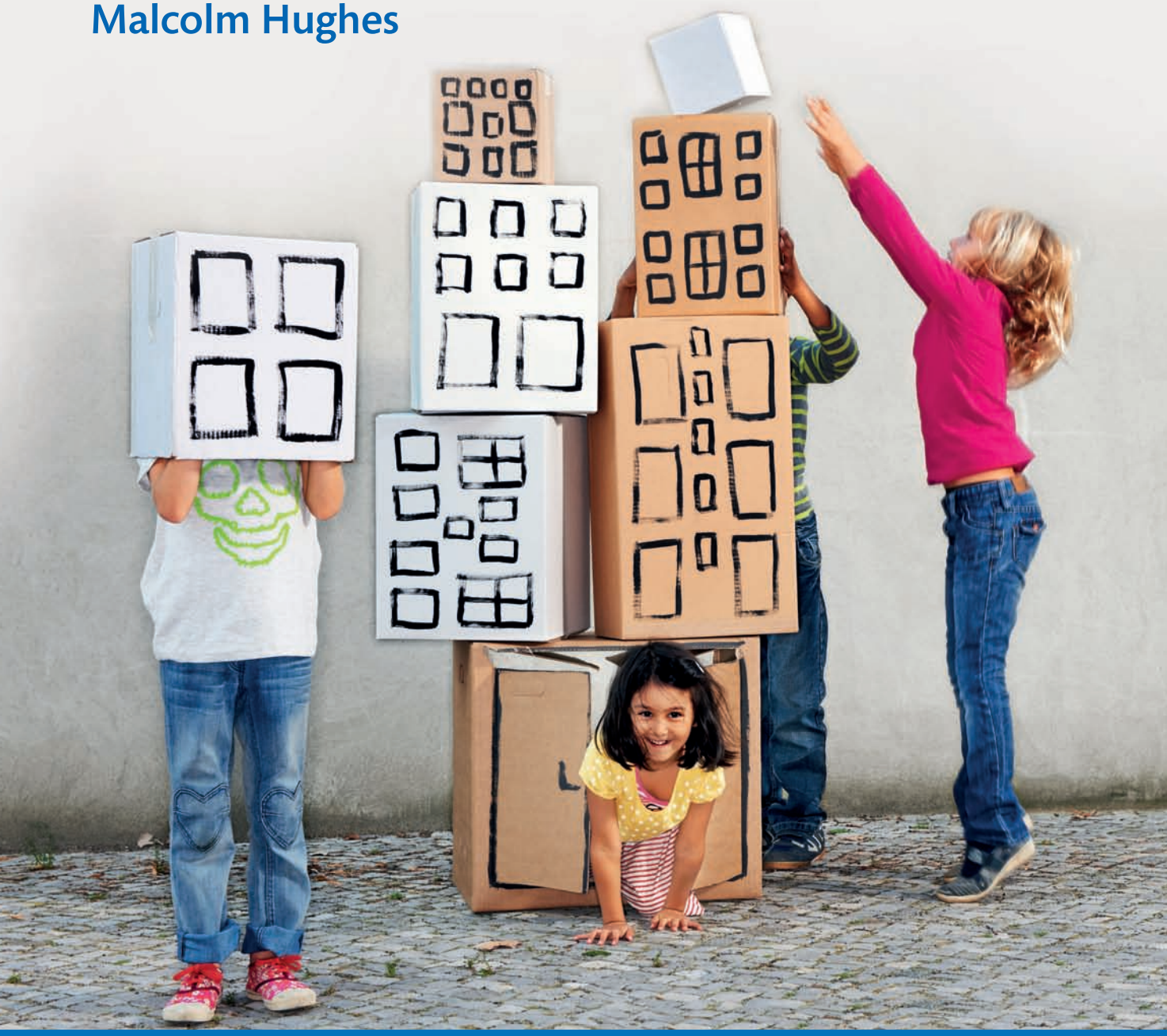
Child Development

Theory and Practice 0–11

Second Edition

Jonathan Doherty
Malcolm Hughes



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Jonathan Doherty & Malcolm Hughes

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Guided tour

Introduction

In this book you will learn more about children and their development from conception to the end of childhood at age 11 – which is the end of primary or elementary schooling in many countries and the beginning of adolescence. You will learn about the vast range of capabilities that very young children quickly acquire and how, in the course of just a few years, this impressive range of skills, knowledge and understanding is extended even further. Your understanding of children and their development will depend on getting a grasp of the most important issues in child development.

In this chapter we set out what we think are the most important issues to explore about children and their development. We begin by considering the nature of child development and how childhood is generally understood. We also offer reasons why the study of child development is essential for practitioners working with children in daycare, playgroups, nurseries, schools, families and other settings.

Many **Chapter Introductions** begin with mini case studies to illustrate a concept or theme that is built upon within the chapter.

Chapter Objectives enable you to focus on what you should have learned by the end of the chapter.

Chapter Objectives

By the time you have completed this chapter you should be able to answer the following questions:

- What is a theory?
- Why is theory necessary and valuable in the study of child development?
- What are the most important and influential developmental theories?
- How can we evaluate the usefulness of theories?
- How can we interpret developmental theories in relevant contexts?

Focus on Theory

Nutrition and the prenatal period

The prenatal period is the period of most rapid growth in one's entire life and a diet that supplies correct nutrients is needed for brain and body development. The developing foetus requires proper nutrients for growth at all of the stages and is totally reliant upon the mother to provide this. When this is denied, there is irrefutable evidence of the damage it causes to the child pre- and postnatal. Defects include low intelligence and serious learning problems in school (Lawlor *et al.*, 2006). Research findings link malnutrition to low birth weight, prematurity and cognitive deficiencies (e.g. Zhang *et al.*, 2005). Earlier research by Shonkoff and Phillips (2000) evidenced the impact of malnutrition on brain development, showing deficits in intelligence and attention capacity. In the prenatal period, the brain grows rapidly and a balanced diet is needed to supply correct nutrients.

Further deficiencies arising from mal- or undernutrition have also been reported in the research literature, some of which we call on now. In the first germinal stages of pregnancy,

Focus on Theory discusses key academic and professional research and theory, providing a secure and informed base for understanding.

Controversy

Is outdoor play devalued in primary educational practice?

Four years ago I visited Blackawton Primary School in Devon. All children (and staff) bring a change of clothes to school so that they can go outside whatever the weather, and the children (though not the staff) are encouraged to climb the tall trees that form one of the boundaries of the school. When Dave Strudwick, the head teacher, pointed the trees out to me, I was astonished and excited that challenging physical outdoor play was so encouraged.

In the United Kingdom, however, changes to educational practice in the past 25 years have seen a steady decline in the emphasis placed upon outdoor learning and physical play. Factors include a strong shift towards a focus on children's literacy and numeracy development, a narrowed view of the purposes of education, the adoption of a top-down model that valued classroom learning whereas the outdoors was denigrated as a place to 'let off steam' with little academic contribution (Lindon, 2005). This was despite a strong tradition of early childhood pioneers such as Friedrich Froebel, Margaret McMillan and Susan Isaacs

Controversy engages you in current issues and encourages debate.

Policy, Research and Praxis

Closing the gender gap in boys' reading

The issue of boys underachieving in reading is a long-established trend in this country and internationally. A study involving 31 European countries into the impact on the acquisition of reading skills for 3–15-year-olds found that boys were one of the groups at risk of low achievement (EURYDICE, 2011). In schools in England, girls outperform boys on all National Curriculum reading tests. By age 7, the gap between boys and girls is already well established and continues to widen through to GCSE (Clark with Burke, 2012).

Data shows that the gender gap in reading enjoyment and reading frequency is also widening. Three out of four (76 per cent) UK schools are concerned about boys' underachievement in reading. There is still no government strategy to address the issue. In 2011 an estimated 60,000 boys failed to reach the expected level in reading at age 11 (Boys Reading Commission, 2012). The Commission report highlights that the 'reading gender gap' is widening and calls for action to be taken in homes, schools and communities.

Research has found that 1 young person in 3 does not have books of their own (33.2 per cent)

Policy, Research and Praxis discusses developments in childcare practices and changes to UK Government policies.

Ossification
The process through which cartilage becomes bone.

Skeletal age
A way of estimating physical maturity based on the development of the bones in the body.

Growth plates
The area of growing tissue near the ends of the long bones in children and adolescents, also known as epiphyseal plates or physis.

Fontanelles
Gaps in the skull that allow the head of the baby to pass through the birth canal

Alongside height and weight changes, internal changes take place in muscles and b which are important for movement skills – the motor functions. Newborns have f bones in their extremities than older children and it takes until the end of the childhood pe and into adolescence for all bones to be fully mature. **Ossification**, the process through w cartilage thickens to become bone, occurs rapidly in early childhood, beginning during first 6 weeks *in utero* in the jaw and collarbone. **Skeletal age** is a measure of physical mat and can be determined by X-ray to discover bone development. Different skeletal parts o at different ages as do the **growth plates** – the growing tissue near the ends of the long bo Females have a more developed skeletal system than males. Even at birth, girls are n advanced than boys, typically by between 4 and 6 weeks. Measuring head size is freque used by doctors in early development because the rate of growth of the skull is more consis to accommodate a growing brain within (see Figure 7.4). Gaps in the skull called fontane present before birth to allow a baby's head to squeeze through mother's dilated cervix, gr ally close in the first 2 years.

Muscle tissue undergoes huge increases after birth. Two types of muscle fibre deve *slow twitch*, which is associated with endurance, and *fast twitch*, associated with explo power. By the end of the first year, these fibres are 30 per cent of adult size – and their si believed to be mostly inherited. Although muscle fibres are present at birth, their constitu changes throughout the childhood period – gaining in length and thickness. Male

Key Terms are highlighted and defined in the text when they first appear. These terms are also included in the **Glossary** at the end of the book.

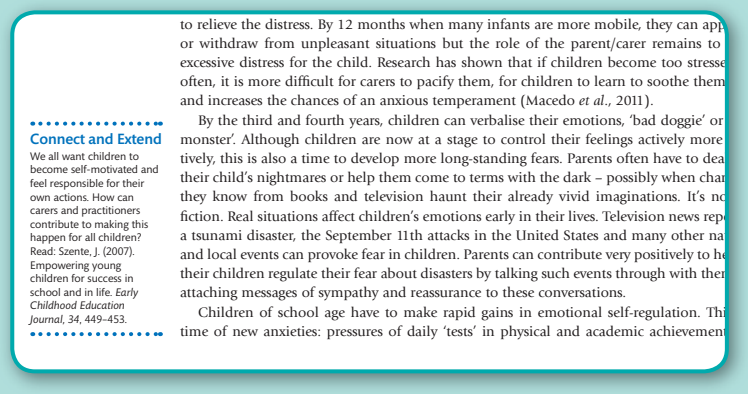
The previous section and the *Focus on Theory* feature discuss how play contexts provide children with many opportunities to foster social development. Now it is time to explore how children think about their own motives and those of other people. This is what is known as 'social cognition' (mentioned in Chapter 11 in the context of emotional development) and it bridges both social and cognitive development. What are the defining aspects of social cognition?

Reflect

The Twenty Statements Test (Humphries & Jobson, 2012).

How would you describe yourself? Write down your 20 answers to the question, 'Who am I?' Afterwards, reflect on your answers. What do they say about your personality, temperament, behaviour, interests and values? Is this really who you think you are? Perhaps you might like to show the list to somebody else and see whether your idea of who you are is the person they think you are.

Reflect asks you to pause and engage in an activity and helps you become a reflective practitioner. They provide an opportunity to engage with and reflect on theories and issues raised throughout the text.



to relieve the distress. By 12 months when many infants are more mobile, they can app or withdraw from unpleasant situations but the role of the parent/carer remains to excessive distress for the child. Research has shown that if children become too stresse often, it is more difficult for carers to pacify them, for children to learn to soothe them and increases the chances of an anxious temperament (Macedo *et al.*, 2011).

By the third and fourth years, children can verbalise their emotions, 'bad doggie' or monster'. Although children are now at a stage to control their feelings actively more tively, this is also a time to develop more long-standing fears. Parents often have to dea their child's nightmares or help them come to terms with the dark – possibly when char they know from books and television haunt their already vivid imaginations. It's no fiction. Real situations affect children's emotions early in their lives. Television news rep a tsunami disaster, the September 11th attacks in the United States and many other na and local events can provoke fear in children. Parents can contribute very positively to h their children regulate their fear about disasters by talking such events through with the attaching messages of sympathy and reassurance to these conversations.

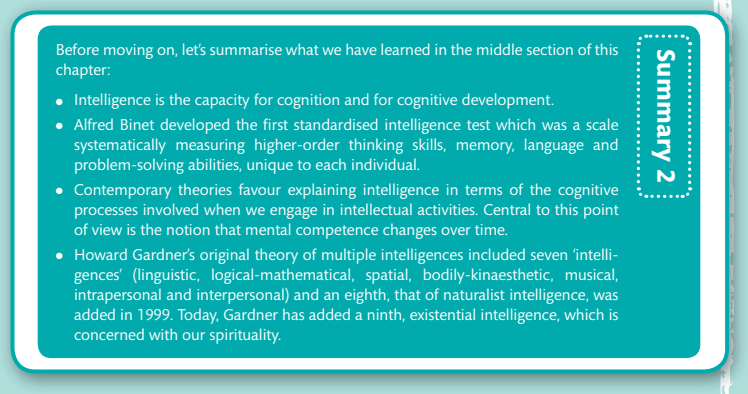
Children of school age have to make rapid gains in emotional self-regulation. Thi time of new anxieties: pressures of daily 'tests' in physical and academic achievement

Connect and Extend

We all want children to become self-motivated and feel responsible for their own actions. How can carers and practitioners contribute to making this happen for all children? Read: Szente, J. (2007). Empowering young children for success in school and in life. *Early Childhood Education Journal, 34*, 449–453.

Connect and Extend gives suggestions of further texts, including journal papers which will deepen your knowledge and challenge you to place your study in the context of applied scientific method and research.

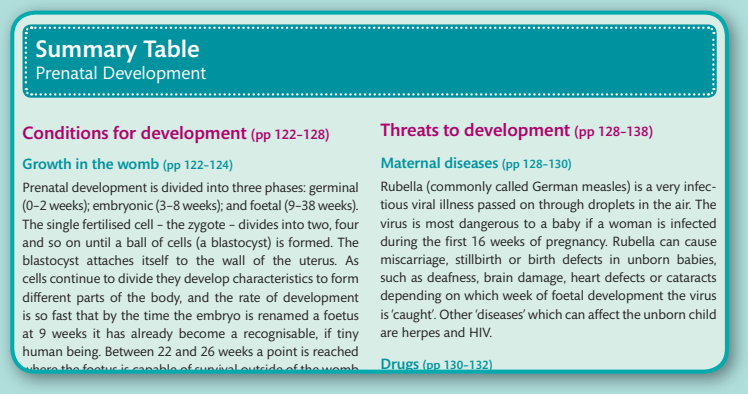
At three points in each chapter, a short **Summary** of the preceding section will help consolidate your learning.



Summary 2

Before moving on, let's summarise what we have learned in the middle section of this chapter:

- Intelligence is the capacity for cognition and for cognitive development.
- Alfred Binet developed the first standardised intelligence test which was a scale systematically measuring higher-order thinking skills, memory, language and problem-solving abilities, unique to each individual.
- Contemporary theories favour explaining intelligence in terms of the cognitive processes involved when we engage in intellectual activities. Central to this point of view is the notion that mental competence changes over time.
- Howard Gardner's original theory of multiple intelligences included seven 'intelligences' (linguistic, logical-mathematical, spatial, bodily-kinaesthetic, musical, intrapersonal and interpersonal) and an eighth, that of naturalist intelligence, was added in 1999. Today, Gardner has added a ninth, existential intelligence, which is concerned with our spirituality.



Summary Table
Prenatal Development

Conditions for development (pp 122–128)

Growth in the womb (pp 122–124)

Prenatal development is divided into three phases: germinal (0–2 weeks); embryonic (3–8 weeks); and foetal (9–38 weeks). The single fertilised cell – the zygote – divides into two, four and so on until a ball of cells (a blastocyst) is formed. The blastocyst attaches itself to the wall of the uterus. As cells continue to divide they develop characteristics to form different parts of the body, and the rate of development is so fast that by the time the embryo is renamed a foetus at 9 weeks it has already become a recognisable, if tiny human being. Between 22 and 26 weeks a point is reached where the foetus is capable of survival outside of the womb

Threats to development (pp 128–138)

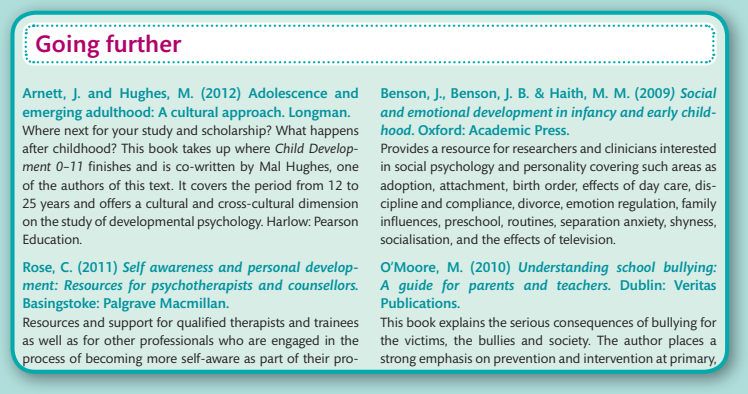
Maternal diseases (pp 128–130)

Rubella (commonly called German measles) is a very infectious viral illness passed on through droplets in the air. The virus is most dangerous to a baby if a woman is infected during the first 16 weeks of pregnancy. Rubella can cause miscarriage, stillbirth or birth defects in unborn babies, such as deafness, brain damage, heart defects or cataracts depending on which week of foetal development the virus is 'caught'. Other 'diseases' which can affect the unborn child are herpes and HIV.

Drugs (pp 130–132)

At the end of each chapter a **Summary Table** brings together the key concepts of the chapter to assist with review and revision.

At the end of each chapter, further readings and relevant websites are suggested in the **Going further** section.



Going further

Arnett, J. and Hughes, M. (2012) Adolescence and emerging adulthood: A cultural approach. Longman.
Where next for your study and scholarship? What happens after childhood? This book takes up where *Child Development 0–11* finishes and is co-written by Mal Hughes, one of the authors of this text. It covers the period from 12 to 25 years and offers a cultural and cross-cultural dimension on the study of developmental psychology. Harlow: Pearson Education.

Rose, C. (2011) *Self awareness and personal development: Resources for psychotherapists and counsellors.* Basingstoke: Palgrave Macmillan.
Resources and support for qualified therapists and trainees as well as for other professionals who are engaged in the process of becoming more self-aware as part of their pro-

Benson, J., Benson, J. B. & Haith, M. M. (2009) *Social and emotional development in infancy and early childhood.* Oxford: Academic Press.
Provides a resource for researchers and clinicians interested in social psychology and personality covering such areas as adoption, attachment, birth order, effects of day care, discipline and compliance, divorce, emotion regulation, family influences, preschool, routines, separation anxiety, shyness, socialisation, and the effects of television.

O'Moore, M. (2010) *Understanding school bullying: A guide for parents and teachers.* Dublin: Veritas Publications.
This book explains the serious consequences of bullying for the victims, the bullies and society. The author places a strong emphasis on prevention and intervention at primary,

Preface

Preparing this 2nd edition of *Child Development: Theory and Practice 0–11* has given us an opportunity to revisit the research that underpinned the first edition; to strengthen the connections between theory and professional practice; and to refresh the guidance on extending the reader's experience. We were very grateful for the way in which the first edition was received and adopted as a core text on many child development, child-care and education courses in the UK and further afield. We also received from students and tutors really helpful advice on how to improve the text and the features that had proved particularly helpful. One suggestion was to include an additional section in each chapter to demonstrate and discuss the connection between academic research, government policy and professional practice. This has become an important new feature: *Policy, Research and Praxis*.

We have also read with growing excitement the work of those researchers using brain scanning techniques – notably fMRI – to further reveal how our amazing brains first grow, develop throughout childhood and adapt to new challenges. You will find that many themes within the text are further explored using the results of brain scanning. These are results that have both illuminated and challenged the ideas which emerged from the first century of developmental science.

A temptation in many new editions is to keep adding new material for each chapter. We are grateful for the advice of the review panel and our editors who asked to look again at some sections. We believe we have produced a leaner and much improved edition without losing our aim of producing an accessible and comprehensive core text.

Despite these changes and additions, this text remains a journey through children's development that begins before birth and continues until the end of middle childhood at around 11 years. It brings together key ideas and theories in child development and applies them to the home and a variety of educational and care settings. It is written with four categories of audience in mind. Firstly, for all engaged in what has recently become known as the children's workforce in the health service, and in social and welfare services. Secondly, for trainees on initial teacher training courses in early childhood and primary education and those undertaking childhood or education studies. Thirdly, for teachers and learning assistants, managers and practitioners in schools, playgroups, crèches and other settings who are undertaking professional development. Lastly, this is a book written by parents for parents, who are the first and most powerful influence on the development of their children.

An understanding of children's development is of enormous benefit to parents and professional practitioners to help them recognise and meet the intellectual, linguistic, physical, social and emotional needs of children more effectively. The more informed we are of how children develop and the processes through which children learn, the more effectively we can optimise children's all-round development and learning. Of course, parents have a pivotal role to play in laying important foundations for children's development and early learning too. Parents and families provide the most influential context for children to flourish and play their part in fostering important continuity in care between home, early years settings and school. *Child Development: Theory and Practice* acknowledges the strong partnership that exists between parents, child-care professionals and educators, and this relationship, emphasised from the outset,

continues to feature throughout the text. In writing and reading this text we are together studying childhood development from the moment of conception. It is our collective responsibility to get it right for our children: the right start to life for them to become all that they can.

The need to be informed on how children develop and how they learn is not disputed in terms of the content of many professional training courses and is a move well supported by policy and professional literature. For example, revised Professional Standards for Qualified Teacher Status, implemented from September 2007 also reflects a change away from a curriculum of subjects and requires future teachers to have understanding of the needs of the whole child. Standard Q5 states that teachers in training should:

> **recognise and respect the contribution that colleagues, parents and carers can make to the development and well-being of children and young people and to raising their levels of attainment**

and standard Q18 states that trainee teachers should:

> **understand how children develop and that the progress and well-being of learners are affected by a range of developmental, social, religious, ethnic, cultural and linguistic influences**

(TDA, 2007).

The framework for study and professional development provided by *Child Development: Theory and Practice 0–11* provides a key text to demonstrate addressing and meeting these standards and for wider use across all aspects of professional learning.

Since the nineteenth century, our understanding of childhood has undergone many changes, and developmental psychology has made a significant contribution. We now accept there are many different global 'childhoods' and we need to incorporate knowledge from sociology, feminist research, genetics and cultural studies to further inform us. The study of how children develop is complex and should not be conveniently packaged into one format – even into just one text, no matter how learned or comprehensive! And not everything new is necessarily of value. While neuroscience – the science revealed in part by fMRI scanning – has contributed much to our knowledge of the learning brain (Blakemore and Frith, 2005) particularly in mathematical and language learning, and learning disabilities, there is scepticism that some techniques flowing from new knowledge about the connection between brain activity and body movement – e.g. Brain Gym (Dennison, 2010) – lack a strong empirical base. The term 'neuromyths' (e.g. Pasquinelli, 2012) has been used to suggest that some claims are overgeneralised and simplified. Rather than being wholly dismissive, our view is that we should avoid any 'quick fix' or 'fix all' answers to developmental problems and that a theory remains just a theory until shown to apply in practice.

Application of theory into practice is a central feature of this text. We introduce you to a number of ideas, concepts and theories and then go on to explain or apply these to care, school and/or home contexts. To further assist with the application and exemplification of theory, we present practical situations spanning childhood in short stories or vignettes from the classroom, home and care settings, and these feature throughout the text. Chapter introductions have clear learning objectives, and many begin with a mini case study to illustrate a concept or theme that is built upon within the chapter. Chapters also include *Focus on Theory* features which present key academic and professional research findings, designed to provide a secure and informed base for understanding. The *Controversy* features engage the reader in current issues and the applications of theoretical knowledge to care and educational settings. Important and possibly unfamiliar terms are highlighted in bold and explained in nearby margin notes, and the text is punctuated by a number of *Reflect* features that ask you to pause and engage in an activity that strengthens the notion of child professionals as reflective practitioners.

At three points in each chapter, you can read a short summary of the preceding section. These summaries are restructured into a *Summary Table* at the end of the chapter to assist with review and revision.

Page margins also include an important innovation, the *Connect and Extend* features. You are encouraged to find these resources, texts, journal papers or articles by using an online electronic resource provided by your university, college or local library or by regularly visiting your library to immerse yourself in the texts available there. Feedback on this feature from the first edition has been very positive, with a number of tutors suggesting that students who habitually followed the study opportunities presented in the *Connect and Extend* features were particularly well prepared for assessment tasks. Some of the articles referenced are from the professional literature and will expand and deepen your knowledge. Other references are to scientific and theoretical papers from on-line journals and are selected to challenge you to place your study in the context of applied scientific method and research. At the end of each chapter, further reading and relevant websites are suggested in the *Going further* and *Useful website*s features.

Child Development: Theory and Practice 0–11 is structured into three parts for maximum accessibility. We draw on broad areas of developmental psychology and relate these to 'cutting-edge' issues in education. We also argue for a holistic view of how children develop, and stress that development and indeed learning are very much a combination of motor, cognitive, intellectual and social functioning: a fundamental principle to the text's 'whole child' approach. Ecological development (for example, the influences of family, school, peers, television) is woven into and throughout the text, rather than have this as a discrete and concluding part of the text, and is a topic-based format adopted in contrast to a chronological age approach allowing for more integrated exploration of key themes.

The division of the text into three parts allows topics to be grouped together in a more coherent way and emphasises the connected themes of the text. *Part 1: Introducing Child Development* deals with the theoretical field of child development, its methods of study and key theories. The organising framework in the text separates the areas of child development for the purposes of analysis but readers are encouraged to view development as an integrated and holistic concept. The 'journey' of human development begins in Chapter 1 *Issues in Child Development* where we introduce newborns Kirsty and Niamh and describe some of their marvellous accomplishments and potentials. References are made to both historical and cultural traditions by introducing the fundamental questions that are at the very heart of the study of children. You are encouraged to take a broad view of the themes and debates integral to them, but also to view these as directly relevant to your interactions with children as a teacher, parent or carer. Chapter 2 is titled *Theories of Child Development*. Five broad theoretical frameworks are examined: learning theories; cognitive theories; psychodynamic theories; ecological theories; and biological theories. We suggest that an understanding of the scope of these theories and how these are interpreted practically are important for those engaged in academic and professional study of childhood or for practitioners already working with children.

Chapter 3 *Research Methods* introduces you to the different techniques used to capture how children grow, think and form relationships with others in classroom and care settings. We explain the methods used to gather data on children's abilities, thoughts and feelings, and that research findings will of course depend on the methods adopted. In the final part of the chapter, the relative merits of each of these methods is discussed in the context of schools, daycare and families. Chapter 4 *Nature and Nurture* begins by describing important genetic foundations and shows how, although we are all individuals, we share commonalities in our appearance and behaviours. Each of us is born with a particular set of instructions for development, and as unique individuals. Our genetic code acts as the instruction manual that we take with us on our journey through life. The chapter unravels some of the complexities in prenatal development by looking at the influence of heredity on development and at environmental factors that influence it.

Part 2: Early and Physical Development addresses the 'building blocks' of development and early learning. In Chapter 5 *Prenatal Development* the nine months of pregnancy are traced through its three phases of germinal, embryonic and foetal periods. Pregnancy is portrayed as a time of great joy and anticipation for parents and also the time in which the genetic patterning

of the child takes place. Factors in the external environment known as teratogens that can negatively influence the health and future capacity of the unborn child are discussed. You will see how development of the central nervous system and growth of the brain are linked and shown to be crucial to behaviours and learning of the foetus in the womb. This theme is picked up in Chapter 6 *Neonatal Behaviour and Learning* which discusses a newborn baby's capabilities and shows clearly how early learning takes place through the integration of sensory, motor and perceptual development.

Chapter 7 *The Body and Physical Growth* begins by presenting information about general physical development and depicts the differential that exists in this area in children of the same chronological age. Highly topical is the issue of childhood obesity and the chapter explores the physical and psychological consequences of this ill-health. In Chapter 8 *Sensory and Perceptual Development* we meet Asifa, who at 1 year old is sitting up in her high chair, content, looking around and taking in people and things going on around her but finding the act of co-ordinating a spoon, food and her mouth difficult. Young children acquire motor skills from information they receive from their perceptual faculties, and perception is integral to almost every task that a child performs. Many activities that children engage in at school and at play require reasonable levels of perceptual-motor development and the chapter explores ways for parents, carers and teachers to promote this development.

Part 3: Cognitive and Social Development describes how children's minds and voices develop. Chapter 9 *Cognitive Development* places cognition at the centre of all other aspects of human development. We begin by discussing three different perspectives on thinking: Piaget's cognitive-developmental theory, Vygotsky's sociocultural theory and the more recent information-processing theories. We stress that no single approach can account solely for the complexity of how we think but that each set of theories has contributed to our understanding. The implications of theories for classroom practice are discussed before presenting a discussion on the nature of what constitutes intelligence: a topic that has received widespread attention in psychology and more recently in education. In Chapter 10 *Language Development* we argue that language is one of a child's most significant developmental milestones. The Latin word *infans* means incapable of speech, suggesting that this is not a facility children are born with and yet in just a few years almost all children become competent communicators and capable readers with a good command of the written word. We discuss the four components of language – phonology, how meaningful sounds are produced; semantics, referring to words and their meanings; grammar or the structure of language necessary for constructing meaningful sentences; and pragmatics which are the rules of language. Together these components provide a framework to help us understand the scope of human language. We analyse the main theoretical approaches and join in the debate as to whether language is acquired innately or whether it is learned. The chapter concludes with a discussion on bilingualism and the effects upon children of multi-language learning with particular reference to writing.

Chapter 11 *Emotions and Personality* shows how emotions, an often neglected aspect of the study of development, constitute an area that dominates our early lives. We argue how emotions are a vital foundation, on which are built all other mental skills. Interactions with others close to us, well before language is acquired, foster confidence and security, and enable children to achieve verbal, cognitive and motor milestones. We 'meet' Dani Coates, a 3-year-old in his first day at nursery, to introduce the topic of attachment, draw on recent research findings, and conclude with a discussion on the effects of child-care on early relationships. Chapter 12 *The Social and Moral World of the Child* asserts that being social is a feature of being human. Moving through changing social environments, children learn about the practices and values of the society in which they live. Experiences in childhood in a variety of social groups play an important part in making children who they are and who they become. The important role of children's play in their social experiences is discussed before moving on to children's understanding of their own feelings and those of other people, known as social cognition. This bridges both social and cognitive development and we illustrate how children come to understand who they are by discussing self-concept and self-esteem, through the topics of theory of

mind and social identity. The three major socialisation influences on children are explored: the family (and parents in particular); peers; and schools and the media (for example, how children's viewing of television and their use of the Internet and interactive and/or video games affect their socialisation skills). The moral aspect of children's development is considered and illustrated with familiar examples of prosocial behaviour in educational contexts (citizenship education) and antisocial behaviour.

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Part 1

Introducing Child Development

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Chapter 1

Issues in Child Development

Overview

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Key questions and themes in child development	pp 21–27
Conclusion	pp 27–28

Introduction

In this book you will learn more about children and their development from conception to the end of childhood at age 11 – which is the end of primary or elementary schooling in many countries and the beginning of adolescence. You will learn about the vast range of capabilities that very young children quickly acquire and how, in the course of just a few years, this impressive range of skills, knowledge and understanding is extended even further. Your understanding of children and their development will depend on getting a grasp of the most important issues in child development.

In this chapter we set out what we think are the most important issues to explore about children and their development. We begin by considering the nature of child development and how childhood is generally understood. We also offer reasons why the study of child development is essential for practitioners working with children in daycare, playgroups, nurseries, schools, families and other settings.

Chapter Objectives

By the time you have completed this chapter you should be able to answer the following questions:

- What is the study of child development?
- What are the fundamental issues and key terms?
- Why is knowledge of child development important?
- What are the key questions and fundamental issues of child development, and how do they relate to parenting, care situations and education?

Defining child development

This is Niamh. She is just a few hours old.

Source: Edward and Ella Hogan.

To help you start refining your understanding of child development, let's consider two different views of a newborn child. The first is expressed by a friend, Edd Hogan, a 'first-time' father holding his new daughter Niamh (pronounced Neeve), who is just a few minutes old.

. . . I felt a rush of emotion: happiness, joy, awe, and relief. She was all there: two arms, two legs, and she was beautiful. In those first few hours a great deal goes through your mind – what will she become? Will she like what we like? How will she get on in school? What will her voice sound like? The feelings of love towards her were, and are, remarkable. We want her to grow up to know what it is to be loved. We want the best for our baby and we will support her in making her own choices as she grows up. Of course, we want to steer her to do certain things, like playing a musical instrument. Most of all, we want her to have a carefree childhood surrounded by a loving family.

Reflect

Niamh was born to Ella and Edd Hogan on 5 November 2007. Can you think back to your own feelings on seeing a new baby – perhaps your own baby, or a brother or sister – for the first time? Edd and Ella wished, most of all, that Niamh would have a 'carefree childhood surrounded by a loving family'. This, sadly – tragically in some cases – is not the birthright for all babies. Is there such a thing as a birthright?

Compare Edd Hogan's very personal account with that of Professor Robert Winston's introduction to the BBC television series *The Human Body*. Lord Winston is one of Britain's most respected medical academics and researcher of the human reproductive system. He said:

> **I want you to meet Kirsty who was born just over two hours ago. Mix together some protein, a little sugar, quite a lot of fat and about 75 per cent water with a selection of chemicals that you would find in any pharmacy and there we have it! Simple really and yet this tiny being is the most sophisticated and complicated living being on the planet. In the course of her lifetime (650,000 hours on average) she will achieve things that are amazing, fantastic and every bit miraculous.**
>
> (*Source*: Robert Winston, *The Human Body*, 20 May 1998, BBC Television)

Both Professor Winston and Edd Hogan see and understand the enormous potential for growth, change and development in the two newborns Kirsty and Niamh. Robert and Edd may have contrasting ways of expressing their sense of awe and wonder but both are already looking forward to the almost incredible changes that will happen in the lives of these two young children. In identifying and making sense of these changes, you will begin to construct your own understanding of child development.

What is child development?

Human development
The pattern of change that all individuals undergo from conception through the span of life.

The study of any kind of **human development** is mostly about the study of change (Herrero *et al.*, 2012; Kagitcibasi, 2012; Côté *et al.*, 2002) and in order to understand it, we need to study the changes that children undergo beginning in the womb, through the post-natal period and continuing throughout childhood. The study of change can and should be a scientific enterprise. You may all remember doing science experiments at school by applying

processes to a current physical condition and then observing the effects – the changes that happen. For example, gently heating iron sulphide with a strong acid and using the resulting malodorous gas (hydrogen sulphide – smelling of rotten eggs) to make stink bombs. The schoolboy experimenter changes the physical state of iron sulphide and acid using heat. By observing the change that takes place, the schoolboy knows more about the nature of the sulphide, the acid, the chemical effects of heat and the resulting chemical compound. He or she is engaged in a scientific – if somewhat mischievous – enterprise. So what does that tell us about changes we observe in children? Some research methods used in the study of child development are experimental and you can look ahead to Chapter 3 *Research Methods* to read examples of how experimental methods are used. That is not the whole picture, though, as experimental methods are not always relevant or practical. Indeed, practitioners working with young children tend to be more familiar with observing children directly, as a method to understand them and the progress they are making (more of this in Chapter 3).

Parents and teachers are not experimenters with children. The science that developmentalists – those who study human development – bring to the observation of changes in children tends to be **naturalistic** rather than experimental. However, natural scientific observation is more than the plain act of looking at people. Scientific observers must 'perceive' in order to add to their own knowledge. They do this by incorporating new perceptions into a framework of previous knowledge and ideas (Piaget, 1957). This idea needs a little explanation at this stage. Understanding something new does not grow out of nothing. We all have an idea – a **schema** the French psychologist Jean Piaget (see Chapter 2) would call it – of, say what a dog is, based on our observations and experiences of 'dog'. So the first time we see a fox we might perceive it to be a dog, in line with our current schema of 'dog'. Our new experience of seeing a fox, shared perhaps with somebody else who already has the language and understanding of 'fox' will lead us to adapt our understanding of 'dog' and to include in our range of knowledge a new schema of 'fox'. Adapting and including new ideas (the term we use is 'assimilating') is an important process in the development of understanding.

Naturalistic
Observations of behaviour in natural contexts (e.g. homes, classrooms) rather than structured observations in laboratories.

Schema
A set of ideas about the common features of a particular object, being or concept.

While we are talking about the scientific and personal process of assimilating new observations and understandings, do not go any further until you have followed the nearby *Connect and Extend* feature about Victor, the 'Wild Boy of Aveyron'. It is a fascinating story, one which marks the beginning point for the science of child development as this study was among the very first to attempt a scientific approach to understanding how children grow and flourish. By assimilating ideas from an enquiry into Victor, the 'Wild Boy of Aveyron', you can really develop your understanding of child development.

Connect and Extend
Search online for the story of Victor, the 'Wild Boy of Aveyron', and into the work of Jean-Marc Itard, who tried to transform the 'wild boy' into a civilised Frenchman. There is also a reference in the *Going Further* feature at the end of Chapter 1.

Reading Chapter 3 of this book will help you to understand how to best observe and study children's behaviour and development. You will be introduced to recognised expert observers of child development (for example, Piaget, Bruner and Vygotsky in cognitive development and Freud, Erikson and Bowlby in emotional and social development). These scientists did not apply particular 'treatments' to generate the changes they wish to observe (unlike a mischievous schoolboy making hydrogen sulphide or Jean-Marc Itard in the nearby *Connect and Extend*). Rather, by perceiving, identifying and making sense of the changes in children as they grow and develop, the expert theorists like those mentioned above help parents, nurses and teachers to check that all is well and 'going to plan'.

Connect and Extend
How do we find out about children's development? To compare different scientific methods in a European context, read: Hofstetter, R. (2012). The transformation of the child. The 'eurekas' of human development, from science and romanticism: a 'naturalism' of childhood. *Paedagogica Historica*, February, *48*(1), 31–50.

Until now, we seem to have been using the terms 'change' and 'development' as if they are freely exchangeable without taking account of any differences. Below we begin to sort out some of the common terms used when talking about children's development and see how the two concepts of change and development are linked.

Terms of development

Teachers, early years practitioners and all professionals who work with children should be aware of complex processes and factors at work that influence the ways in which children such

as Kirsty and Niamh (who we 'met' earlier) grow, think, learn new skills, acquire knowledge and interact with others. Remember from earlier that human development is the pattern of change that all individuals undergo from conception through the span of life. The abundance and complexity of these changes is apparent even during the first few days of life. For example, think back to the photograph of Niamh at the beginning of the chapter. When that photograph was taken, any smile that newborn Niamh made was probably a reflex to a sensation – perhaps indigestion, yet just a few weeks later Niamh smiled in recognition and pleasure. Changes such as learning to smile enable very young children to display different aspects of personality, to tackle increasingly complicated tasks and to interact with their world and other people they encounter.

Human growth
The gradual but not necessarily steady increase in size of the body.

Maturation
The process of following the 'biological developmental plan' contained in our genes.

Genes
Units of heredity composed of DNA, forming part of the chromosomes that make up the nucleus of the human cell.

Learning
The process through which a person's experiences of their environment result in relatively permanent changes to how people feel, think and behave.

Development includes changes in **human growth** which are readily observable and measurable. These changes are fast-moving and enable children to, for example, support their own body weight, move around in a variety of ways, manipulate, and to build and destroy. Development is also about the process of **maturation**, or the biological developmental plan contained in our **genes**. This is the hereditary material that passes from parent to child that partly determines the physical 'milestones' that children achieve, such as learning to walk, and the psychological changes that allow them to think and interact with others. In addition, you should appreciate how growth and maturation differ from **learning**. Learning is the process through which a person's experiences of their environment result in relatively permanent changes to how people feel, think and behave (Schaffer, 2006; Georghiades, 2004). It is generally accepted that developmental changes occur as a result of both maturation and learning and this duality is an important idea.

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For an excellent example of an enquiry into learning through experience, read: McGuigan, N. & Doherty, M. (2006). Head and shoulders, knees and toes: Which parts of the body are necessary to be seen? *British Journal of Developmental Psychology*, *24*, 727–732.

Child Development includes physical growth, yet, as illustrated in Figure 1.1, is defined by the interdependence of learning, cognitive development – the emergence of the ability to think and understand – and maturation. The issue that remains is: to what extent are developmental changes, both physical and cognitive, due to heredity? For example, a person's height once fully grown is largely a matter of heredity, but during the maturation process both the pace of growth and the final outcome is affected by diet. In the same way, the capacity for cognitive development is determined by growth due to maturation and (as shown in Figure 1.1) cognitive ability is determined by the outcomes of learning through experience. Next we consider the extent to which the typical pattern of developmental change that occurs over time can be considered as stages linked to chronological age.

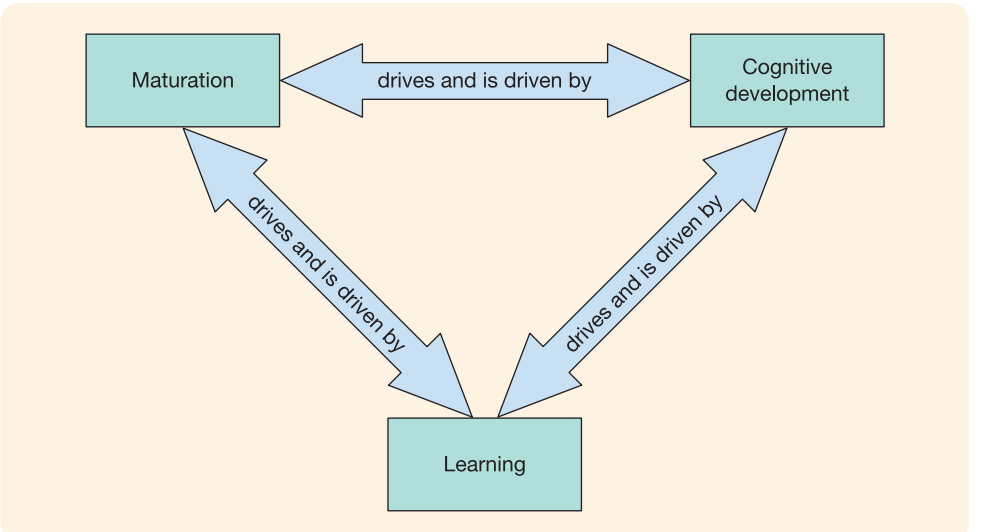

Figure 1.1 The key drivers that define child development

Stages of development

Child development is concerned with understanding the various processes that determine both the physical and psychological make-up of children. Our earlier definition of development emphasises the constant nature of change (growth and decline) throughout people's lives, and our study of change during a lifetime is informed by lifespan perspectives in psychology (e.g. Mayo, 2001). Development has been neatly summarised as 'the systematic and scientific study of changes in human behaviours and mental activities over time' (Bukatko & Daehler, 2001, p 4) and as a developmental framework, you will find it commonly presented in terms of periods of time. This tends to give an impression of discrete (distinctly separate) stages closely linked to chronological age and providing a very precise ordering of change. However, we encourage you to see development as more of a flow of constant change with notions of different stages serving only to provide a structure for observation and analysis. With this 'health warning' in mind, now study Figure 1.2, which shows commonly identified periods of development up to the emergence of adulthood.

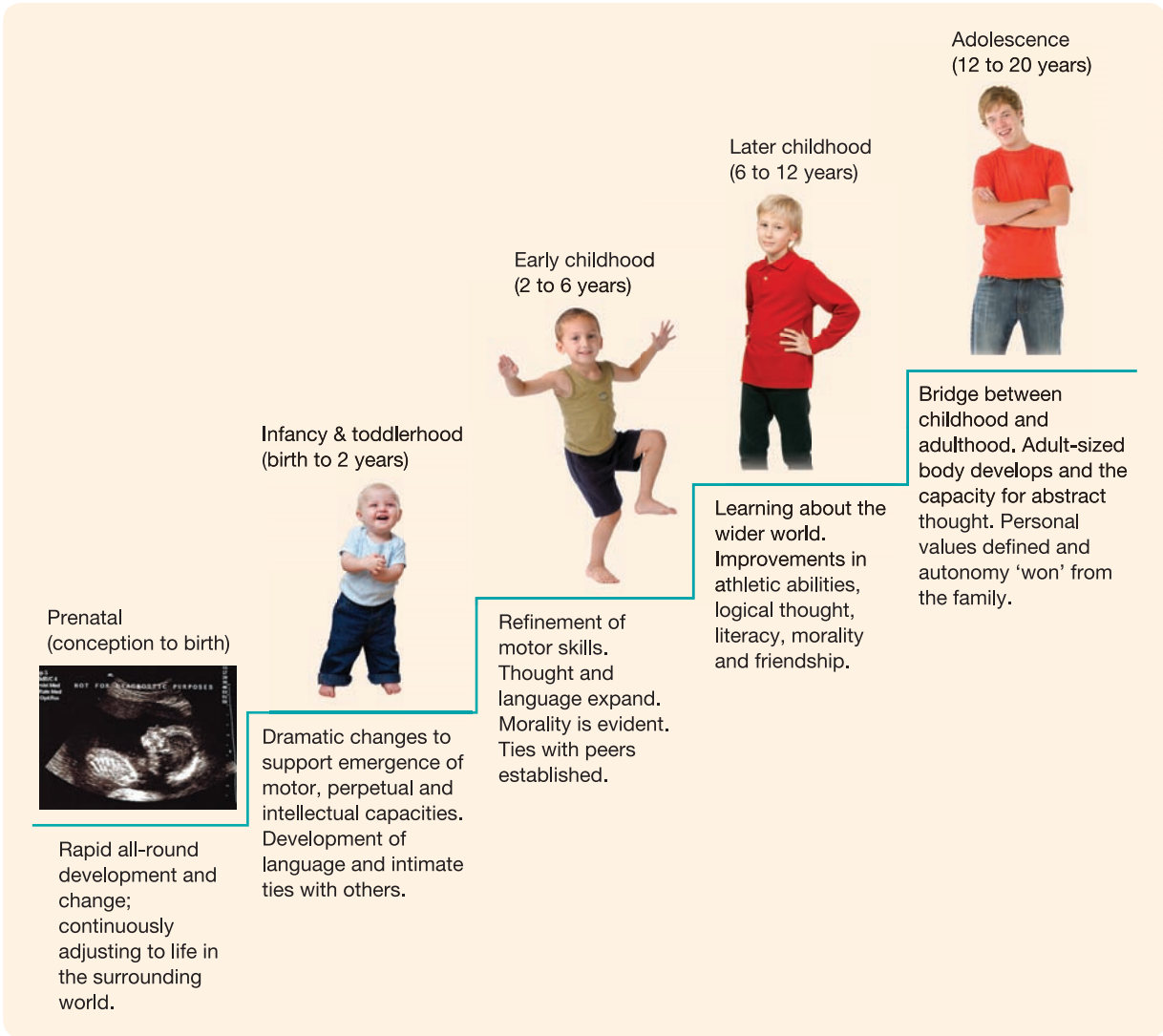

Figure 1.2 The course of child development at specific periods of time

Sources (photos): From left to right: Edward and Ella Hogan; © DK Images / Vanessa Davies; © Pearson Education Ltd / Jules Selmes; © Shutterstock.com / Russian Kudrin; © Alamy Images / MBI.

Too strict an adherence to any conceptual framework of child development structured by age can be problematical because development does not necessarily proceed in an orderly way. However, such structures as shown in Figure 1.2 can also be very helpful when commenting upon a child's development, for example, to refer to certain age-related stages of development, such as in the following comments: 'I remember when Toby was just learning to walk, at about 14 months . . .' (parent). Similarly, there are advantages in commenting upon observed changes in children as they progress through school: 'I've really noticed a big difference in Ellie's language skills from when she was 6. Her stories have got much longer with much more involved plots' (teaching assistant).

Look at the developmental stages shown in Figure 1.2. Can you recall and record any observations you have made for each of these stages. For example, when Malcolm's wife was expecting their first child he used to sing to his yet-unborn daughter. Baby Rebecca moved around in a very excited way. Perhaps she was dancing or trying to get away from the horrible noise! This is an example of the yet-unborn Rebecca continuously adjusting to life in her surrounding prenatal world. What personal examples can you think of?

The memory of personal examples recalled in the nearby *Reflect* feature may lead you to adapt Figure 1.2 for yourself, perhaps preferring to see *early childhood* extending from ages 3 to 6 years and *later childhood* from 7 to 11 years. Your adaptation may correspond with the key stages prescribed in a national curriculum or with age phases represented in school-age groupings. For example, compulsory schooling in Sweden and Denmark begins at the age of 7. In Norway 'primary' school is normally 6–13 years, 6–12 in Belgium and 5–11 in England and Wales (Woolfolk *et al.*, 2012).

Connect and Extend

Familiarise yourself with the national framework for the Early Years Foundation Stage (EYFS) in England using links from **www.education.gov.uk/**. Research the frameworks that exist elsewhere in Europe. For some background and starting points for your research, try: Stephen, C. (2006) Early Years Education: Perspectives from a Review of the International Literature. Edinburgh: Scottish Executive Education Department, available online.

In England an Early Years (0 to 5 years) Foundation Stage (DfE, 2012; DfES, 2006) became a statutory framework in September 2008 – and revised in 2012 – for all registered private, voluntary, independent and maintained early years settings. The framework is based on an understanding (which we hope you will come to share) of the holistic nature of child development, and talks about phases rather than stages. Reception and nursery classes in maintained and independent schools, day nurseries, childminders, playgroups, after school and breakfast clubs, holiday play schemes, and Sure Start Children's Centres (more explanation later) have to follow a structure of learning, development and care for children from birth to five years old. If early years experiences are of particular interest to you, refer to the nearby *Connect and Extend* feature. We will return to this important national statutory context later on in this chapter.

Domains of development

In addition to considering child development in specific periods of time, development can also be organised into broad areas or domains. A typical organisation is:

- *Physical development* – comprising changes in body size (growth) and proportions, the order and acquisition of motor skills, and perceptual and motor capacities.
- *Cognitive development* – thinking, intellect and intellectual processes that include attention, memory, knowledge, problem-solving and creativity. It also includes language and communication.
- *Social and emotional development* – the former includes understanding of 'self', relationships with others and sociability; the latter includes emotional expression, attachment, personality and temperament.

The later chapters of this book consider the domains of child development separately as some 'deconstruction' of development enables a better analysis of each of the domains. Nevertheless, you are encouraged to retain the idea of holistic development by looking for the many connections between the characteristics of each of the domains, and to transfer the holistic notion to their everyday interactions with children. Remember the scientific approach taken by Jean-Marc Itard to transforming Victor, the 'Wild Boy of Aveyron'? This was a holistic enquiry and the history of child development contains many such examples where scientists have developed their theories and ideas by closely observing the whole development of children. It is to the history of child development that we now turn.

Summary 1

Before moving on, let's summarise what we have learned so far:

- Child development is the study of changes in children over the timespan of childhood from conception to adulthood.
- It is a scientific study – usually naturalistic rather than experimental. Observations of children's changing abilities and characteristics take place in natural settings such as homes and schools.
- Expert observers are systematic and precise, and build their perceptions into theories.
- Knowledge of these theories helps all who nurture children to check that all is well and 'going to plan'.
- Child development is the study of changes due to both maturation (following the genetic plan) and learning (change due to experience).
- Such changes can be represented either in age-related phases or by referring to domains of development – physical, cognitive or social/emotional, all of which are strongly interconnected. In this book we stress a holistic interpretation of child development for the practical application of the ideas described.

A history of child development

The beginnings of child development

The study of child development has a comparatively short history, beginning 150 years ago or so. Despite its late acceptance as scientific enquiry (due, as we shall see, to a comparatively later interest in childhood as a distinct part of the human lifespan), the amount of study and scholarship has grown at pace for two reasons. Firstly, increase in scientific scholarship is in response to practitioners wishing to work in more enlightened ways with preschool and primary age children. Secondly, the depth of study acknowledges that parents, carers and childminders wish to bring a more informed approach to their parenting or child-caring practices. One reason for this comparatively recent interest has been the change in societal attitudes to the concept of childhood (Davis, 2011; Taylor, A., 2011). A brief trawl through the history of childhood reveals very different earlier views of children from contemporary beliefs about childhood. How did we get to where we are today? What and where were the origins of this aspect of developmental psychology that we call child development?

To answer these questions we should return to medieval Europe where, some writers assert, no concept of childhood (as we perceive it) was known before 1600. Philippe Aries in his influential and landmark book *Centuries of Childhood* (1962) writes that the lack of precision