

Chapter 4

Early childhood

Learning outcomes

By the end of this chapter you should:

- *be able to recognise the importance of motor skills for different areas of psychological development in the preschooler;*
- *be aware of the main features of language development in this phase and be able to evaluate critically theories of language acquisition;*
- *be able to evaluate the emergence of symbolic thinking;*
- *understand the importance of play for psychological development;*
- *be able to evaluate critically the evidence concerning the emergence of sense of self;*
- *have developed your ability to analyse and evaluate major themes and theories in developmental psychology;*
- *have developed your IT and independent learning skills.*

Introduction

By the age of two, children are no longer infants or babies. They are entering early childhood, a phase that lasts until the age of five. Throughout this period children grow taller and stronger, and their shape is changing: body fat is decreasing, legs are lengthening and, by the end of this phase, children no longer seem top heavy as they did during infancy. The increased mobility seen in early childhood promotes exploration of the environment and provides new learning experiences. In addition, emotional and social development is enhanced by growing interaction with peers, which is provided through a range of social learning environments, such as mother and toddler groups, play groups and nurseries, which many children of this age attend. Cognitive and language skills are also rapidly improving during this period of life. Language has been described as our most significant cultural tool. It provides an effective medium for children's learning, not only by allowing adults to communicate information to children, but also by enabling children to ask about the world they encounter every day.

Physical development

There are a number of important physical developments taking place during this period of life. Arguably the most important of these from a psychological point of view are the continuing maturation of the brain (Nelson et al., 2006) and the development of fine and gross motor skills. Together these two developments contribute vastly to the child's growing abilities to explore the world around them.

Maturation of the brain

The changes that occur in the brain between the ages of two and five years enable children to plan their actions, pay greater attention to tasks and increase their language skills. The brain does not grow as rapidly during this time period as it did in infancy, but there are still some dramatic anatomical changes that take place (Thompson et al., 2000). Researchers have shown that, during early childhood, children's brains show rapid growth in the prefrontal cortex in particular. The prefrontal cortex is an area of the frontal lobes that is known to be involved in two very important activities: planning and organising new actions, and maintaining attention to tasks (Blumenthal et al., 1999).

Other important changes include an increase in myelination of the cells in the brain. This myelination speeds up the rate at which information travels through the nervous system (Meier et al., 2004). Increases in myelination at this phase of development have been found to be greater in certain areas of the brain and this has been linked to developing skills. For example, myelination of the area of the brain that controls hand-eye coordination is not completed until around four years of age. Brain-imaging studies have shown that children with lower rates of myelination in this area of the brain at four years of age show poorer hand-eye coordination than their peers (Pujol et al., 2004). Hand-eye coordination is, of course, important for good motor skills.

Motor skill development

Between the ages of two and four years, quite impressive gains are seen in the development of gross and fine motor skills (see Table 4.1). By the age of two years, children are much more confident in their ability to get around the environment under their own steam (Edwards and Sarwark, 2005) and this confidence grows over the next few years so that, by the age of five, children are quite self-assured in their ability to run, jump and climb. As you will see later in this chapter, these gross motor skills are very important for play activities.

At the same time, fine motor skills in this age group are becoming more precise. While a three year old finds great pleasure in building a tower of bricks as tall as they can, the four or five year old will

Table 4.1: Fine and gross motor development in the early years

Age (years)	Gross motor skills	Fine motor skills
2	Walks well Runs Goes up and down stairs alone Kicks ball	Uses spoon and fork Turns pages of a book Imitates circular stroke Builds tower of six cubes
3	Runs well Marches Rides tricycle Stands on one foot briefly	Feeds self well Puts on shoes and socks Unbuttons and buttons Builds tower of ten cubes
4	Skips Performs standing broad jump Throws ball overhand Has a high motor drive	Draws a person Cuts with scissors (not well) Dresses self well Washes and dries face

be far more interested in the careful placement of the bricks as they build the tower. Indeed, it is likely that just building a tower will no longer be satisfying in itself – by this age children want to build more intricate structures such as bridges and buildings.

Children in this age group also enjoy practising their fine motor skills by activities such as drawing, writing and colouring. It is through these sorts of activities that parents and other carers begin to become aware of whether their child has a preference for using their right or left hand. This 'handedness' or 'hand preference', as it is called, seems to have a strong genetic basis. This idea is based on a range of research, including adoptive studies, which have shown that the handedness of an adopted child is related to the handedness of their biological parents, but not the handedness of their adoptive parents (e.g. Carter-Saltzman, 1980). In addition, prenatal ultrasound scans have shown that the unborn child shows a hand preference when sucking their thumb, with most foetuses showing a preference for their right hand (Hepper et al., 1990). This strongly suggests that handedness develops long before environmental influences, such as cultural and social expectations, can have an effect.

A right-hand preference dominates in all cultures at a rate of approximately nine to one. Handedness has traditionally been thought to have a strong link to brain organisation. Paul Pierre Broca first described language regions in the left hemisphere of right-handers in the nineteenth century and, from then on, it was accepted that the reverse, that is, right-hemisphere language dominance, should be true of left-handers (Knecht et al., 2000). However, in reality the left-hand side of the brain dominates in language processing for most people: around 95 per cent of right-handers process speech predominantly in the left hemisphere (Springer and Deutsch, 1985), as do more than 50 per cent of left-handers (Knecht et al., 2000). According to Knecht et al., left-handedness is *neither a precondition nor a necessary consequence of right-hemisphere language*

dominance (Knecht et al., 2000, p2517). However, according to this study, left-handedness does increase the likelihood of right-hemisphere dominance for language processing.

So are there any differences in the abilities of right- and left-handed individuals? Left-handedness is more frequently seen in creative and artistic individuals, such as musicians and artists, than would be expected by chance (Schachter and Ransil, 1996). Famous left-handers in this category include the artists Michelangelo, Leonardo da Vinci and Pablo Picasso; Lewis Carroll, the author of *Alice in Wonderland*; the composer, Johann Sebastian Bach, and Oasis musician, Noel Gallagher. This might be explained by the finding that left-handers tend to have exceptional visual-spatial skills (Holtzen, 2000), meaning that they are better able to recognise and represent shape and form (Ghayas and Adil, 2007). Studies have shown a tendency for left-handers to score highly on intelligence tests (e.g. Bower, 1985; Ghayas and Adil, 2007); however, it has also been noted that left-handers are more likely to have reading problems than right-handers (Natsopoulos et al., 1998), which may be related to the way they process language.

Language development

As you learned in Chapter 2, it seems likely that prenatal learning establishes the basis for later language development. The neonate is born with the ability to recognise acoustic cues and can make distinctions between **phonemes** in any language (Kuhl et al., 2006). Between the ages of six and 12 months, they become better at perceiving the changes in sound in their native language, gradually losing the ability to detect differences that are not important. For example, the sounds *r* and *l* are important in spoken English, distinguishing words such as rake and lake. No such sound distinction exists in Japanese. Iverson et al. (2003) demonstrated that six-month-old infants from English-speaking homes could detect the change from *ra* to *la* and gradually improved in detecting this change over the next few months. In contrast, infants from Japanese-speaking homes were as good as the infants from English language homes at six months, but by 12 months had lost this ability. It is likely that this recognition of distinct sounds and speech patterns develops over the first year of life into the recognition and comprehension of words. As you learned in Chapter 3, understanding of language also begins around the same time that this change from universal linguist to language-specific listener occurs.

You also know that language production develops much later than language comprehension. One reason for the lag between comprehension and production of language is that changes in the anatomy of the vocal tract are necessary for the production of the complex range of movements that speech requires. At birth, the infant vocal tract is very different from that of an adult. It is designed to enable strong piston-like movements that are essential for sucking. The infant's **larynx** is positioned high up, so that the epiglottis nearly touches the soft palate at the back of the mouth. The tongue is large in relation to the size of the mouth, nearly filling the oral cavity, while the **pharynx** is very short compared to that of an adult, allowing little room for manipulation of the

back part of the tongue. Once sucking becomes less of a priority at around four months of age, the vocal tract gradually takes on a more adult form. This is accompanied by neural maturation of the related motor areas in the brain. Together, these physical and neurological developments provide infants with control over the fine motor movements that are essential for producing the full range of speech sounds. Thus, both physical and neurological changes are needed for the speech production that begins in infancy and then progresses rapidly in early childhood.

From first words to telegraphic speech

Infants are able to express various meanings simply by altering the intonation of a single word. For example 'milk' could mean 'I want my milk', 'Where is the milk?' and even 'I've spilt my milk!' Interpretation of these single-word sentences, or **holophrases**, also relies on the context in which they are uttered, and in the absence of environmental cues (such as spilt milk) carers may not always get the meaning right first time. The two-word utterance, so-called **telegraphic speech**, which develops around the age of two years (at about the same time that the vocabulary spurt occurs), provides a more effective means of communication and is a universal feature of language development (Boysson-Bardies, 1999). Slobin (1972) identified a range of functions for these telegraphic utterances, as demonstrated in Table 4.2. However, the child still has to rely heavily on gesture, intonation and context for conveying meaning. Once the telegraphic speech stage has been reached, young children move rapidly from producing two-word utterances to create three-, four- and five-word combinations and so begin the transition from simple to complex sentences (Bloom, 1998). As well as getting longer, utterances also become more grammatical and the transition from early word combinations to full-blown grammar is rapid. By the time children reach their fourth birthday, they have mastered an impressive range of grammatical devices. Indeed, they seem to assimilate the structures of their native language without explicit instruction or

Table 4.2: Functions of early telegraphic utterances

Utterance	Function
See doggie	Identification
Book there	Location
More milk	Repetition
All gone	Non-existence
My candy	Possession
Big car	Attribution
Mama walk	Agent action
Where ball?	Question

correction (Brown and Hanlon, 1970), which has often been cited as evidence for language acquisition being driven by an innate process.

Theories of language acquisition

One of the predominant debates in theories of language development concerns the question 'Is language innate or learned?' According to the behaviourists, language is learned through a process of reinforcement and imitation. As the infant babbles, it happens to say 'dada' – this is interpreted by the mother as the baby trying to say 'Daddy'. Hugs, kisses and praise given to the child reinforce this behaviour, making it more likely that it will be repeated. Gradually, the infant will learn to associate a particular sound with an object or person. They have begun to learn how to label objects, and what was initially meaningless babbling has become meaningful language. In addition, children are said to learn through imitating the sounds made by others. For example, during play a mother may use the word 'Teddy' to her child, while giving them the teddy. Gradually, the child learns the association between the word and the object and tries to imitate the sounds made by the mother – resulting in reinforcement, repetition and so on.

Nativists such as Noam Chomsky argue that this is too simple an explanation for what is essentially a complex behaviour. In particular, learning theory cannot explain how children are able to construct novel sentences or the ease with which children learn the rules of grammar. There is evidence, for example, that parents do not reinforce or explicitly correct syntax or other grammatical errors (Brown, 1973). Chomsky (1979) argues that there must therefore be an innate mechanism for language learning. He calls this the *language acquisition device (LAD)* (see Chapter 1, page 3). Through the LAD the child is hard-wired to recognise the grammar of whatever language they are exposed to in infancy. This LAD matures over time, allowing the child to use increasingly complex language.

Contemporary theories of language development tend to be less extreme. Both sides have modified their position, so that nativists recognise that the environment has a role to play in language acquisition, and environmentalists accept that imitation and reinforcement are insufficient to explain the child's entry into the complex world of language. Bruner's theory provides a good example of an interactional framework for thinking about language development. He maintains that, while there *may* be an LAD as suggested by Chomsky, there must also be a *language acquisition support system (LASS)* (Bruner, 1983). In this support system he is referring to the features of early relationships described in Chapter 3.

In the last chapter you learned about the way in which adults constantly provide opportunities for children to acquire language. Parents and other carers (unknowingly) provide ritualised scenarios – the ritual of having a bath, eating a meal, getting dressed, or playing a game – in which the phases of interaction are rapidly recognised and predicted by the infant. It is within these social

contexts that the child first becomes aware of the way in which language is used. The utterances of the carer are themselves ritualised and accompany the activity in predictable and comprehensible ways. Gradually, the child moves from a passive position to an active one, taking over the movements of the caretaker and, eventually, the language as well.

Bruner cites the example of a well-known childhood game, Peek-a-boo, in which the mother, or other carer, disappears and then reappears. Through this ritual, which at first may be accompanied by simple noises, or 'Bye-bye . . . Hello', and later by lengthier commentaries, the child is both learning about separation and return, and being offered a context within which language, charged with emotive content, may be acquired. It is this reciprocal and affective nature of language that Bruner suggests Chomsky neglects to consider.

The importance of shared activities for language development is supported by current research (e.g. Liebal et al., 2009) and theorists from different schools now agree that social context plays an important role in language development. Dynamic systems theorists (e.g. Evans, 2006; Gershkoff-Stowe and Thelen, 2004) would agree with Bruner's proposition that features of the social environment are important for language development. They would also concur with the idea that development happens as a result of an interaction between this environment and the child's innate predispositions. However, they would disagree with the idea that there is an innate language-specific mechanism; according to this theory, language emerges from the same general processes as all other behaviours. In this way, language and cognitive development are linked rather than separate processes.

Tomasello (2006) describes a similar approach in his usage-based theory, which argues that the essence of language is its symbolic dimension, not its grammatical construction. Language is learned as a specific tool for conversation and communication. Concrete words are learned initially, with no grammatical rules at all. All the child has is a collection of useful concrete speech units, which form the basic building blocks of language. Gradually, the ability to construct longer and more complex utterances emerges. Initially, children do not possess the fully abstract categories and schemas of adult grammar. Children construct these abstractions only gradually and in piecemeal fashion. According to Tomasello, children construct their language using the following general cognitive processes:

- intention-reading (e.g. joint attention), by which they attempt to understand the communicative significance of an utterance;
- pattern-finding (categorisation, schema formation), by which they are able to create the more abstract dimensions of linguistic competence.

This implies that language development follows on from the development of our thinking processes.

Language and thought

This link between thought and language development deserves further consideration. This is another classic debate in psychology: does language merely reflect thought, or do we need to be able to think (e.g. categorise, understand concepts etc.) before language can develop? Piaget claimed that, although language and thought are closely related, language depends on thought for its development. Language is not possible until children are capable of symbolic thought; they must understand that one thing can stand for another before they can use words to represent objects, events and relationships.

Piaget based this claim on a range of evidence, including development in infancy, in which fundamental principles of thought (e.g. understanding concepts) are displayed well before language; and the simultaneous emergence of language and other processes, which are explored later in this chapter, such as **symbolic play**, suggesting that language is just one of a number of outcomes of fundamental changes in cognitive ability.

In contrast, Vygotsky (1986) saw thought as dependent on language. As you learned in Chapter 1, for Vygotsky language is one of our most important cultural tools and the medium through which most (if not all) learning takes place. **Mental operations** are believed to be embodied in the structure of language, and cognitive development results from the internalisation of language. According to Vygotsky, this happens in the following way. Initially thought and language develop as two separate systems. Before the age of about two years, children use words socially – that is, to communicate with others. Up to this point, the child's internal cognition is without language. At around two years of age, thought and language merge. The language that initially accompanied social interaction is internalised to give a language for thought. This internalised language can then guide the child's actions and thinking.

Vygotsky (1930/1978) identified self-talk as a critical part of the child internalising previously external social speech. In early childhood, especially between the ages of three and four, children often talk out loud to themselves. Over time this self-talk seems to disappear. Piaget (1923) called this self-talk **egocentric** speech and suggested that it reflects some of the limitations of young children's cognitive skills, which we discuss in the next section. In contrast, Vygotsky argued that all speech, including self-talk, is 'social' and therefore self-talk did not disappear – it simply becomes internalised. He argued that to believe that self-talk disappears would be like believing that children stop counting when they stop using their fingers to do so. Vygotsky alleged that, even when internalised, self-talk continues to guide a child's actions. This idea is given some support by the way in which the conscious use of self-talk intensifies when children are presented with tasks of increasing difficulty. Perhaps you can even think of examples of adults using self-talk as an aid for learning? It is as a result of this internalising of 'social language' that the social environment becomes embedded in children's mental reasoning. In this way, all our higher mental functions are thought to originate as actual interactions between human individuals (Vygotsky,

1930/1978). This theory therefore gives an important role to the social context for the development of both thinking and language.

Focus on: the relationship between language and thought

Task Read the following newspaper article, which discusses the relationship between thought and language, using spatial knowledge as an exemplar:

O'Connell, S (2002) It's the thought that counts: does language shape our thoughts, or is it the other way around? *The Guardian*, 16 May. Available online at www.guardian.co.uk/science/2002/may/16/languages.medicalscience.

Now answer the following questions.

- To what extent do you think the research cited provides good evidence in support of the idea that thought shapes language rather than the other way around?
- Can all of the findings presented be explained in terms of differences in social context?
- Which developmental theorists does this call to mind?

Comment

Social context is cited by a number of theorists as having a role in cognitive and language development, including Tomasello, Bruner and Vygotsky. In comparison, Piaget placed little emphasis on this issue. Indeed, it is an important criticism of his theory as the next section shows.

Cognitive development

As you have just seen, language acquisition is one of the major gains of early childhood development. At the same time, other cognitive processes, including memory, are also developing rapidly. Children are learning a lot about the world around them and their role in that world. Thinking at this age is also creative, free and fanciful, and imagination seems to run wild.

Theories of cognitive development

Piaget (1923) called his second stage of cognitive development 'preoperational' because children cannot yet perform *mental operations*, although the beginnings of logical reasoning can be seen,

especially towards the end of this stage. As you saw with language development, during early childhood children are increasingly able to represent the world symbolically using words; this is also reflected in their use of other images and drawings. Piaget divided this period of early childhood into two sub-stages:

- symbolic functioning (two to four years);
- intuitive thinking (four to seven years).

In this chapter we are concerned primarily with the first of these sub-stages, during which the child develops the ability to represent mentally an object that is not present. This is perhaps most easily demonstrated by considering children's pretend play at this stage. Two- and three-year-old children often engage in what Piaget (1923) called *symbolic play*. In this form of play, children use one object to represent another that they do not have access to at the time, for example a lego block as a hair brush; a chair as a car; a finger as a toothbrush (Boyatzis and Watson, 1993). Having the ability to pretend that a particular object can be something else that is not present shows that they have a mental representation of that object. Gradually, this ability to use symbols becomes more sophisticated, so that by the age of four children no longer need to use an object to symbolise another object that is not present. An imaginary representation can be used; Boyatzis and Watson found that a three or four year old will use their finger as a toothbrush when the object is not present, while a five year old will pretend that he or she is holding a toothbrush.

Piaget (1923) believed that children's mental reasoning at this stage was limited by magical thinking and **animism**. Animism is the belief that objects have lifelike qualities and are therefore capable of having feelings, intentions and emotions. For example, a preoperational child may explain the rain by saying that the clouds are sad and are crying. According to Piaget, this limits children's understanding of how the world works and so reduces their ability to think logically. It also means that they find it difficult to tell the difference between reality and fantasy. Another limitation to logical thinking at this age is egocentrism, the inability to distinguish between your own perspective and someone else's. Piaget and Inhelder (1969) studied children's egocentrism using their 'three mountains task' (see Figure 4.1). In this task the child walks around the model of the mountains in order to familiarise themselves with what the mountains look like from different perspectives. Each of the three mountains has a specific identifying feature such as snow, a house or a church on top, meaning that each viewpoint would be quite different. The child is then seated at the table and a researcher places a doll in different locations around the table. At each location the child is asked to select the doll's view from a number of photos. Piaget found that preschool children are unable to choose the correct photo and cited this as evidence of egocentrism.

One important feature of Piaget's experiments, such as the three mountains task, is that they are reliable – if you were to do exactly what Piaget did, you would get the same results that he did. But as you learned in Chapter 1, that does not necessarily mean that his interpretation of these findings is valid. The important question is, do these results mean what Piaget suggests they do?

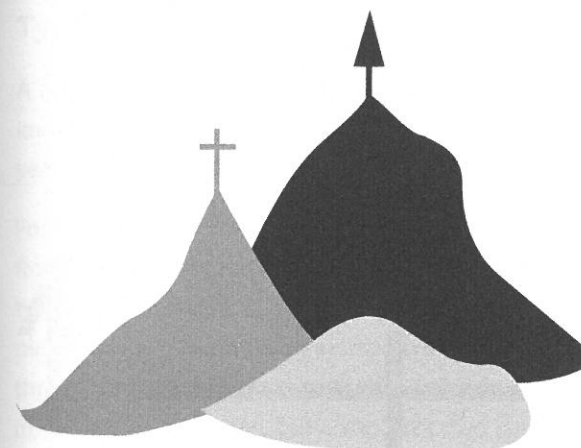


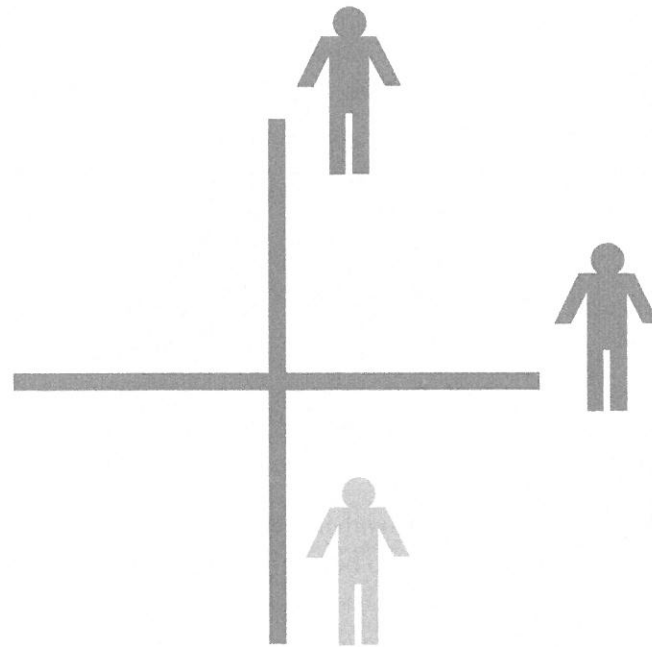
Figure 4.1: Piaget's three mountains task

Woolley (1997) disagrees with the idea that children's thinking is more magical than that of adults. Adults have been found to be just as likely as children to engage in magical thinking, especially when they do not have the knowledge to explain phenomena. Adults invent speculation to fill gaps in their knowledge, much as children do. It is probably also worth remembering that many of the fantastical ideas children believe in – Father Christmas, the tooth fairy and the Easter bunny – are all actively encouraged by the adults around them. Why wouldn't children take at face value what they are told by the authority figures in their lives? After all, we expect them to accept much of what we say on trust. It is therefore the social context that determines whether or not adults or children engage in magical thinking.

There is also evidence that the social context has an impact on young children's egocentrism. In a classic experiment, Hughes (1975) repeated the three mountains task using a situation he thought would be more familiar (and therefore more socially relevant) to the child – a 'naughty boy' hiding from a policeman (see Figure 4.2).

In this task, children are shown a board with two barriers. Toy policemen are placed at the end of each barrier and the child is asked to place a model boy in the layout where the policemen can't see him. Hughes found that 90 per cent of children aged three to five could complete the task successfully, concluding that it was lack of understanding of the situation rather than egocentrism that caused the problems for Piaget's participants.

Another criticism of Piagetian theory is provided by information-processing theory. According to this model of cognitive development, preschoolers are limited by their processing skills rather than their logical reasoning. Between the ages of two and four, children are more likely to pay attention to salient characteristics of a task, to the detriment of more relevant ones. Such characteristics distract the child's attention from the task. Young children are also less systematic in their approach to a task. When asked to compare two complex pictures, they do not necessarily consider all the details before making a judgement (Vurpillot, 1968). Finally, preschoolers are

Figure 4.2: Hughes's test of egocentrism

impeded by the accuracy and capacity of their short-term memories. Increased myelination in areas that support memory and planning (e.g. the hippocampus and frontal cortex), which occurs during early childhood, is thought to explain why these areas of processing improve during this phase of development (Pujol et al., 2006). How might the limitations in these processing features explain children's responses in the three mountains task, do you think?

Play

Play also has an integral relationship with early social, cognitive and linguistic development. Much of the contemporary work on this subject, and on *symbolic play* in particular, has been based on the work of Piaget (1962), who maintained that play advances cognitive development. Through play children are able to practise their competencies and skills in a relaxed and pleasurable way. Vygotsky (1962) also saw a value in symbolic play for cognitive development, especially during the preschool years.

However, this is not the only benefit of play. Play also allows children to practise the developing motor skills that you learned about earlier in this chapter. Better control of their bodies allows children to run, skip, ride a tricycle, enjoy the slides and swings in the park, and to draw, colour and construct and make things. Although this play can be a solitary activity, it can also be a social activity, especially in the preschool years.

Types of play

A number of theorists have advanced elaborate classifications of play. Perhaps the most well known is that of Parten (1932). In this model, based on observations of play during the preschool years, Parten describes six different types of play (see Table 4.3).

For many years it was accepted that these categories were developmental – children progressed from solo to more social play. Recent research suggests that this is far from the case. All of these types of play are seen in the preschooler: five year olds spend more time in solitary or parallel play than in cooperative or associative play; and parallel play is as common at five years as it is at three years of age (Rubin et al., 1998). Furthermore, there is evidence that parallel play is not an immature form of play, but a sophisticated strategy for easing your way into an ongoing game; successful integration into cooperative play involves observation of others at play, followed by playing alongside before interacting with other players (Rubin et al., 1998).

It has also been argued that this model is limited by neglecting the cognitive aspects of play (Bergen, 1988). A more useful way of classifying play is to focus on the type of activity rather than the social aspects. Three main activity types emerge from this way of thinking, as shown in Table 4.4. The different levels of social interaction described by Parten can be seen in each of these activity types – solitary play may be functional (e.g. bouncing a ball) or constructive (e.g. building with lego). All these activities are popular throughout early childhood; however, the social play that is seen most often in the preschool years is socio-dramatic play. Indeed, many experts in play consider this period of development the peak time for make-believe or fantasy play (Fein 1986).

Table 4.3: Classification of play behaviours (Parten, 1932)

Type of play	Description of play behaviour
Unoccupied play	Child is relatively stationary and appears to be performing random movements with no apparent purpose. A relatively infrequent style of play.
Solitary play	Child is completely engrossed in playing and does not seem to notice other children.
Onlooker play	Child takes an interest in other children's play but does not join in. May ask questions or just talk to other children, but the main activity is simply to watch.
Parallel play	Child mimics other children's play but doesn't actively engage with them. For example, child may use the same toy.
Associative play	Children now more interested in each other than the toys they are using. This is the first category that involves strong social interaction between the children while they play.
Cooperative play	Some organisation enters children's play, for example the playing has some goal and children often adopt roles and act as a group.

Table 4.4: Types of play activity

Activity type	Description of play behaviour
Functional play	Physical activities such as bouncing a ball, or rough and tumble.
Constructive play	Building and making things, drawing or colouring.
Socio-dramatic play	Role-play or 'let's pretend'.

Socio-dramatic play and development

Socio-dramatic play is perhaps the most complex form, as it involves sharing a fantasy world with others. Children need to negotiate roles ('I want to be the mummy' – 'No, it's my turn'), agree on the development of the narrative ('My baby is poorly and needs to go to the doctor'), rules ('My power-ranger can jump over houses but yours can't) and symbolism ('The chair is my car'). It requires a sophisticated level of interaction and is thought to foster children's understanding of other minds (Dunn, 1988) because of the opportunities present for discussing thoughts, feelings and motivations, as you shall learn in the next chapter. It also helps children develop a sense of who they are as they practise different social roles and learn about how others see them.

Self-concept

Our sense of self is at the centre of our social, emotional and personal development. It is our self-identity – our understanding of who we are as an individual – and includes awareness of subjective experience and relationships with others. There are two aspects to sense of self, first defined by William James in 1890: the 'I', or the 'self-as-subject', also referred to as the *existential self* (Lewis, 1990) and the 'me', or the 'self-as-object', which is also referred to as the *categorical self* (Lewis, 1990).

The existential self is characterised by subjective experience and the sense of having a continuous identity across situations and through time. The first step on the road to self-understanding is the recognition that 'I' exist as an individual, and have agency (the power to act) and distinct and unique experiences. This awareness is thought to begin to develop in infancy, when babies begin to show understanding that they have agency; that is, they can cause things to happen and have the ability to control objects (Cooley, 1902). Infants learn that, when they let go of something, it drops; when they touch a toy, it moves; when they cry or smile, someone responds to them. In this way a sense of agency emerges at around four months of age and is gradually consolidated. By the time the infant moves into early childhood, this sense of agency is more clearly developed. A two-year-old child is more assertive, demanding and picky than a four-month-old baby. Indeed, the tantrums so often associated with the 'terrible twos' are suggested to reflect the frustration felt

by toddlers when attempts to control the world around them fail. However, it is difficult to know to what extent this demonstrates true sense of self. Empirical investigations of the existential self in infants and toddlers are limited and studies tend to be speculative (Damon and Hart, 1988). This is not surprising, as studying self-awareness is difficult at any age; it is difficult to think about or articulate the different aspects of the 'I', and so even more difficult to study them empirically.

Empirical support for the emergence of the categorical self in late infancy/early childhood is provided by an investigation carried out by Lewis and Brooks-Gunn (1979). They used the **rouge test** with infants aged between nine months and two years. In this test, an experimenter surreptitiously places a dot of rouge on the nose of the child, who is then placed in front of a mirror and whose reactions are then monitored. Self-recognition is shown when the child touches their nose or attempts to wipe away the rouge. Lewis and Brooks-Gunn found that self-recognition emerges at around 18–24 months; at 18 months, 50 per cent of the group recognised the reflection in the mirror as their own, and by 20–24 months this increased to 65 per cent. However, it is important to remember that this is only behavioural evidence for awareness; it does not tell us anything about the subjective experience associated with this consciousness.

Children's understanding of themselves as active agents continues to develop in early childhood and can be seen in their attempts to cooperate with others in play. They use their knowledge of their own power to act on their world, when they offer to share a toy or join in pretend play with a friend. It is in these routine relationships and interactions that the child's understanding of him- or herself continues to emerge (Dunn, 1988). Once children have gained a certain level of awareness of the existential self, they begin to form increasing awareness of their categorical self as they begin to place themselves – and to be placed by others – in different categories (e.g. gender, nationality).

The categorical self is thought to emerge primarily through our interactions with others. Children build up their sense of identity from the reactions of others to them and from the view they believe these others have of them. Cooley (1902) called this the 'looking-glass self'; it is as if other people provide a 'social mirror', and children come to see themselves as they are reflected in others. According to **symbolic interactionist theory**, the self and the social world are inextricably bound together (Mead, 1934). The self is essentially a social structure that can arise only through social experiences. Mead believed that children begin to assume the perceptions that others have of them through their use of language, their games and their play. It is through doing this that they become capable of reflecting on themselves. The child cannot therefore develop a sense of self without the chance to interact with others, in order to begin to understand how these others view the world, including how they view the child. Evidence to support this view comes from cases of extreme social deprivation early in life, for example so-called **feral children** or children such as Genie, a girl who was kept locked in a room for several years by her abusive father (Rymer, 1993). These children have been shown to have poor communication skills and only a limited understanding of self. Victor, the original and perhaps most famous feral child, showed few of the

elements of the categorical self when he was found at the age of 12 years: he was unable to recognise himself in a mirror and had no sense of his own psychological characteristics or of social roles. It is generally believed that he was unable to develop the capacity to reflect on himself, because he did not have others around him whose behaviour he could observe, or who could give him feedback about his own behaviour and characteristics. An alternative explanation is that Victor was abandoned by his family because he was unresponsive socially – nobody knows anything about Victor's development before he was found, so this is as good an explanation as any. Caution is therefore necessary in drawing too many conclusions from this and similar cases.

Other evidence that identity development is linked to social experiences comes from observations of children's play during the preschool years. Clear awareness of different social groupings can be seen in the choices children make regarding their play partners; for example, by the age of three children show a preference for playing with peers of the same ethnicity (Urberg and Kaplan, 1989) and gender (Maccoby, 2002). This suggests that the preschooler has realised that there are different groups in society and has begun to identify with those groups. More is known about how this process happens in relation to the development of **gender identity**, although it seems likely that development follows a similar pattern for all group identities.

Development of gender identity

Once children realise that there are two genders and that they belong to one of them, they begin to show a clear motivation to behave in the ways that a member of that gender 'should'; they dress in the same way, and choose friends, activities and toys to suit this label. Bem (1989) suggests that having labelled themselves as either male or female, the child begins to develop a **gender schema**. This mental model of what males and females 'do' – the **gender role** – is based upon observations of other members of the same group. Children pay more attention to the behaviour of same-gender peers so as to remember more about how their own group behaves and imitate that behaviour (Ruble and Martin, 1998). Behaviours are often highly stereotyped and children's attitudes at this age are frequently sexist – even about their own gender and in the face of contradictory evidence. Children may even show hostility to the other gender (Ruble and Martin, 1998). On the face of it, such extreme behaviour does not seem to provide any developmental advantage. If childhood is preparation for adulthood, don't children need to learn to cooperate with each other, and not segregate themselves by gender? One explanation seems to be that it is only by committing wholeheartedly to a particular social group that the child can develop conceptual coherence – and this includes subscribing to an extreme version of gender-typed behaviour.

An alternative explanation is that the differences we see in male and female behaviour are biologically rather than socially determined. There is evidence to suggest that hormones play a role in behaviours such as aggression, play patterns and attitudes to gender roles (Reiner and Gearhart, 2004). It has also been found that children display preferences for gender-appropriate

toys by six months, well before they have knowledge of gender roles (Alexander et al., 2008). This is believed to provide strong evidence for a biological basis to this preference. However, given that the evidence in favour of a role for the environment in the development of gender identity is so strong, it seems unlikely that such differences are based on biology alone. By six months of age, infants have already notched up a lot of experience in the world – perhaps their preferences for particular toys reflect these experiences and the choices made by the adults and others who make up their world. There is, for example, evidence that carers' responses to their children depend in part on whether their child is male or female (Maccoby, 2003), with fathers showing greater differential treatment than mothers (Leaper, 2002). Parents reward gender-appropriate choices and may even make early toy choices for their children that are linked to their child's sex. Social responses to a biological distinction, along with hormonally based differences in behaviour, thus set the scene for later cognitive and emotional development. Once again, biological, social and emotional features are working together to determine a child's development.

Critical thinking activity

Language development

Critical thinking focus: analysing and evaluating major themes and theories

Key question: *How do children acquire language?*

As you have learned in this chapter, one of the key questions in language development concerns the extent to which this development depends on innate mechanisms.

Read the following chapter by Steven Pinker, in which he describes language as a complex biological adaptation:

Pinker, S (2003) Language as an adaptation to the cognitive niche, in Christiansen, M and Kirby, S (eds) *Language Evolution: States of the art*. New York: Oxford University Press. Available online at http://pinker.wjh.harvard.edu/articles/papers/Language_Evolution.pdf.

While you are reading, you need to think critically about the explanations that Pinker puts forward to explain language development. This may mean reading the chapter several times. There are two things to focus on in particular.

– Do the explanations Pinker gives make sense? Are they credible?

– Can you apply any alternative perspectives and still provide a credible explanation?

For example, Pinker describes how, if children are thrown together without a pre-existing language that can be 'culturally transmitted' to them, they will develop one of their own. According to Pinker, the development of these Creole languages can only be explained by an innate mechanism, given the fact that these languages share many features (such as grammar) in common with established languages. He also gives examples from atypical development to support this viewpoint. Can you think of an alternative explanation for the development of Creole and spontaneous sign language? What would a dynamic systems explanation be for the development of grammatical spontaneous language?

You might also want to take your knowledge of this area further by reading the paper by Tomasello (2006), which is listed in the 'Further reading' for this chapter. Again, try to take a critical approach to Tomasello's paper.

Critical thinking review

This activity helps develop your ability to apply theoretical models to real-life accounts. This means you are learning to think about and evaluate the materials you read, making critical judgements about psychological theory and its application to the real world.

Other skills you may have used in this activity include reflection, recall of key principles and ideas, and communication (literacy) skills if you write up the activity.

Skill builder activity

The importance of play for development

Transferable skill focus: IT and independent learning

Key question: Using a database such as PsycINFO or Academic Search Complete, carry out a search for papers that address the following issue: 'The impact of gender on type of play activity in preschoolers.'

Basic steps in using PsycINFO through the EBSCO Host platform

The first stage in any database search is to establish the basic subject you are interested in. This is not always as easy as it sounds if there are a number of terms or different spellings (e.g. American spelling 'pediatric'; UK spelling 'paediatric') covering what is essentially the same topic. At the top of the page there are several links, including *Choose Databases*, *Search Options*, *Basic Search*, *Advanced Search*, *Visual Search*, *Search History*.

Basic Search allows you to search the PsycINFO database for specific relevant word(s) and phrases, but it is not a very sophisticated approach as the following example shows.

A good starting place when searching past literature relevant to 'The impact of gender on type of play activity in preschoolers' might be to examine previous studies of play. In the *Search* box provided, type 'play' and click on the *Search* button. You should get details of over 88,000 articles in which the word 'play' appears. Such a large number is far too many even for a dedicated researcher to read. Thus, a more refined search is necessary. There are two ways to refine a search on PsycINFO. The first is to use the *Advanced Search* command, which allows you to search specific fields. The second option is to search several words independently and then combine these via the *Search History* command. We are going to focus on the first option.

Advanced Search offers the opportunity to combine terms using *AND*, *OR* and *NOT* commands. To perform an advanced search, click on the *Advanced Search* tab and type a key word in each of the three boxes provided. Then click either the:

- **AND** button if you want references in which both terms appear;
- **OR** button if you want references in which either term appears; or
- **NOT** button if you want to exclude a particular term.

For example, search for records on play by entering 'play' in the *Search* box. This will find you the same number of records, as was found in the basic search. If you then wanted to exclude all references to play in animals you could type 'animal' in the second box and select the *NOT* button. If you now select *Search*, you should get details of around 80,000 articles in which the term 'play' but not the term 'animal' appears. This suggests that around 8,000 of the publications in the original search referred to animals and play.

So this has still not reduced the number of papers found to a manageable number. Carry out the search again adding the term 'gender' and selecting the *AND* button. Selecting *Search* now gives you 4,000 papers. Better, but still a lot to try to read! If you look down the left-hand side of the screen, you will see that you have selected papers published as far back as 1945. This is fine if you want to look at classic studies in psychology. However, more often than not you need to be searching for contemporary work. So this time you run the search, select *Publication date* and change the limits so that you only search for papers published between 2000 and 2010. This should reduce the number of papers by just over 1,000.

Now try the search one last time entering the terms 'play activity' *NOT* 'animal' *AND* 'gender' and limiting the publication date to 2000–2010. This should give you a

manageable 35 articles. Scan through these, reading the abstracts to find relevant papers. One of the papers that you might like to read from your search should be the following:

Kinzie, MB and Joseph, DR (2008) Gender differences in game activity preferences of middle school children: implications for educational game design. *Educational Technology Research and Development*, 56: 643–63.

You might also want to think about other search terms you could have used (what about 'sex' instead of 'gender', for example?). Try the search again using different synonyms and varying your database and see if this gives you any new papers on the topic. Sometimes, researchers run searches on several different databases using a variety of search terms and only come up with one or two new papers on the different search engines. This might seem like a lot of effort for only a little return, but it is the only way to be sure your search is thorough.

Skill builder review

The task requires you to find relevant journal articles using a subject-specific database. Literature searching is an important skill. When you write essays and research reports, you will need to search the literature for relevant papers. PsycINFO is an enormous database, with many ways to search, so you need to know how to extract the information you need. This activity has shown you one way of finding the information you seek. Practise these skills using different databases and remember to use different search terms until you have found all the relevant information you can.

Assignments

1. What is the evidence to support the suggestion that language provides the concepts that we use to organise our thinking and that children therefore cannot think or have knowledge before they learn language?
2. Critically evaluate the role of play in human socio-emotional development.
3. To what extent does the evidence support the emergence of the *self-concept* in early childhood?

Summary: what you have learned

Now you have finished studying this chapter you should:

- be able to recognise the importance of motor skills for different areas of psychological development in the preschooler, including language and play;
- be aware of the main features of language development in this phase and be able critically to evaluate contrasting theories of language acquisition;
- be able to evaluate the emergence of symbolic thinking and its relationship to language and play;
- understand the importance of play for psychological development;
- be able to evaluate critically the evidence concerning the emergence of sense of self;
- have developed your ability to analyse and evaluate major themes and theories in developmental psychology;
- have developed your IT and independent learning skills.

Further reading

Alexander, G, Wilcox, T and Woods, R (2008) Sex differences in infants' visual interest in toys. *Archives of Sexual Behavior*, 38(3): 427–33.

Describes a study investigating infant's visual interest by preferences.

Liebal, K, Behne, T, Carpenter, M and Tomasello, M (2009) Infants use shared experience to interpret pointing gestures. *Developmental Science*, 12(2): 264–71. Available online at http://email.eva.mpg.de/~tomas/pdf/LiebalEtal_SharedExperience_2009.pdf.

Study investigating infant's understanding of pointing gestures.

Tomasello, M (2006) Acquiring linguistic constructions, in Kuhn, D and Siegler, R (eds) *Handbook of Child Psychology, Vol. 2: Cognition, perception, and language* (6th edn). New York: Wiley. Available online at www.staff.eva.mpg.de/~tomas/pdf/tomasello_HoCP2005.pdf.

Good overview of Tomasello's theory of language development.

Urberg, KA and Kaplan, MG (1989) An observational study of race-, age-, and sex-heterogeneous interaction in preschoolers. *Journal of Applied Developmental Psychology*, 10: 299–311.

An investigation into preschoolers' choices for playmates at school.