WHAT IS PLAY IN THE PRIMARY OR ELEMENTARY SCHOOL?

Introduction

It is widely accepted within educational literature that play is a difficult notion to define.

> Play is a complex phenomenon that occurs naturally for most children; they move through the various stages of play development and are able to add complexity, imagination, and creativity to their thought processes and actions. (Mastrangelo, 2009: 34)

Because of the nature of play, we do not offer a precise definition. Instead, in this chapter we present a range of views of play, including biological, historical, societal, educational and developmental in order to support you to develop your own understanding of play in the primary school.

〜〜 **Points for reflection**

Before reading on, think about the play that you engaged with as a child and adolescent, and engage with now as an adult. As you read each section below, reflect on how your own play could be seen from a biological, historical, societal, educational and developmental view.

Biological views of play

Much research identifies that play is a necessary condition for some birds, reptiles, and all mammals including high-order animals such as primates (see, for example, Elkonin, 2005; Oliveira et al., 2010; Palagi et al., 2004; Liu, 2008). It appears to be generally accepted that, from a biological perspective, play is imitative in nature and is a necessary condition for survival in the species. For example, play fighting is observed in rodents (Pellis and Iwaniuk, 2004) and for primates, social play and grooming encourage extended periods of social cohesion (Palagi et al. 2004). Birds also exhibit social behaviour in play, from chasing to reciprocal object play (Diamond and Bond, 2003). Although play is mostly observed in the young of animal species, play is present in adulthood too (Palagi et al., 2006).

From this literature it is possible to conclude that for animals 'play behaviour is far from … a purposeless activity' (Palagi et al., 2004: 949), but is this the case for humans? Craine (2010) seems to think it must be. He explains how children in very challenging circumstances (such as waiting in emergency hospital rooms, living during the Holocaust, or living in ghettos) play spontaneously and uncontrollably. They often have little to play with and face pain, hunger or uncertainty, yet they use whatever they have to play creatively. He proposes that this desire to play may be an innate part of being human. Other animals only play if they are happy and fulfilled (Palagi et al., 2004), yet Craine suggests otherwise for humans. Therefore, if playing is such a strong innate human response, how has society's and education's view of it developed through history?

Historical views of play

Societal views of play

Play is an issue that has been explored by many writers over the previous two centuries who have established alternative perspectives on its role and usefulness. There are writers who have seen play as not holding any real value but purely as a means of using up children's excess energy, for example, Spencer in 1898. Therefore play from such perspectives was not seen as a medium for learning. Others, such as Groos (1890), decided that play allowed children to prepare for life by providing opportunities for the practice of skills and offering the possibility of exploring ways of learning what they will need to know as adults, though having potential excess energy to burn in engaging in the activities was an advantage but not a necessity. For those like Hall (1908) looking at play from an anthropological perspective, play allows children to act out all the primitive behaviours of our evolutionary past, for example, play fighting is reminiscent of the wrestling activities highly visible in past societies and cultures. These writers clearly see play as associated with learning but very specific kinds of knowledge is being learnt. The focus is on practising existing knowledge

within society which is linked to cultural heritage and roles within occupations. It could be argued that his view of play is stagnating in our changing society where the skills and knowledge are shifting and we do not necessarily need the existing skill sets that children can learn from watching adults at work or in roles in the home. Those following the principles of Maria Montessori would still see this practice of the skills of everyday life as important, not only for practical life but also to help children develop the concentration and co-ordination of mind and body. This view of learning continues to be popular across the world.

Educational views of play

The impact of the National Curriculum

In primary school the place of play has shifted over time from the 1960s and 70s. This was influenced by Plowden (CACE, 1967) and during that time experiential learning environments could be seen in all classes up to and including Year 6. This continued into the 1980s before the introduction of the National Curriculum in 1989, when there was a move away from projects or thematic approaches to curriculum planning. The next three decades saw the rise of subjects as the dominant approach for organising learning. The 1990s and first decade of the new century were dominated by the National Strategy's approaches to planning, teaching and learning.

Perhaps it is the way we conceptualise learning that is part of the problem. We are bounded by notions of curriculum which stem from the separation of subjects and learning into compartments both in time and space. Teachers often struggle to make the connections between these artificial separations and as a consequence learners make their own arbitrary connections which can lead to the establishment of misconceptions and lack of understanding.

> Learning and teaching are often assumed to 'take place' in particular slots of a timetable in particular classrooms associated with particular curriculum subjects. (Loveless and Thacker, 2005: 4)

The need to demonstrate results of policies and a nostalgic view of a past education system that worked because of its traditional methods and rigour has led to politicians appearing to be austere. This is demonstrated in the following extract, which suggests that children are in schools to work and not to have fun.

> Ministers have presided over the death of fun and play in the primary school curriculum, according to the results of an inquiry published today. (Garner, 2007)

However, there were significant consequences across primary schools of moving away from play-based activities. Christine Gilbert, the chair of the Teaching and Learning in 2020 Review Group, stated that 'too many children

drift into underachievement and disengagement and fail to make progress in their learning' (2006: 12).

This is a particularly saddening indictment of the state of education at the beginning of the 21st Century by Christine Gilbert, who became Her Majesty's Chief Inspector of Schools in that same year. After all, children start in education with an enthusiasm for learning through their natural curiosity about the world around them. They are keen to learn with inquisitive minds, yet the system appears to force them into learning the skills, knowledge and especially the facts that will help them to pass the assessments, particularly the exams, in order to make the grade. Our education system appears to have failed many children for whom learning is no longer a fun activity but a tedious means to an end.

Making amends

The introduction of *Excellence and Enjoyment* (DfE, 2003) began the reversal of the subject-led trend and reintroduced notions of cross-curricular links and aspects of creativity. Alongside this the personalised learning agenda was introduced to try to address disaffection and lack of engagement. Schools worked with these changes in different ways. One Bristol school which implemented a creative curriculum found that giving their learners greater choice in their curriculum:

- raised children's motivation levels, in particular for home learning;
- helped children become more engaged with their learning in lessons; and
- enhanced teachers' motivation by encouraging them to get to grips with completely new 'topics'. (Haydon, 2008)

Developmental views of play and learning

This book positions play activities within a new paradigm for the future for learners in the primary school. This paradigm is introduced in Chapter 2. However, there is an extensive literature which includes writers viewing play in different ways and it is useful to review a few of the works of authors who have explicitly linked play to learning in different ways.

In summary, the majority of these writers see play as a vehicle for learning whether that be the therapeutic, practising of existing skills or developing symbolic thinking. See Table 1.1.

Among a majority of contemporary researchers, writers and commentators it is widely accepted that play is essential for younger children's learning, yet as children get older there is a shift in the emphasis given to play. Views differ about the role of play around the age group on which it should be focused; for example, Strandell sees play as

an activity that separates children from the real, adult world. It has become one of the expressions for the banishment of children to the margins of society. Play has become an expression of a kind of activity that has no place in real society; something easy that children engage in while waiting for entrance into society. (2000: 147)

Play is sometimes seen as something special for children as they are different from adults. As a consequence play, according to Pellegrini and Boyd, has become 'an almost hallowed concept for teachers of young children' (1993: 105). For Ailwood (2003) there are three dominant discourses of play which she identifies as:

1 *A romantic/nostalgic discourse*. Ailwood suggests that the romantic/nostalgic discourse attempts to look back to a time when children had more freedom to play outside without adult intervention. There is a view that all children had access to this kind of environment whereas the reality is that this was not uniformly available. This view of play is also based within the dominance of Western culture where play is highly valued for children's emotional well-being. This is supported by the work discussed above where play is seen as something all adults have enjoyed and is viewed through rose-coloured glasses as idyllic. What this discourse fails to recognise are the difficult issues that children encounter when playing, such as lack of friends, disagreements with friends, bullying, issues surrounding toys and sharing or just having nowhere to play.

2 *A play characteristic discourse* which is linked to the first discourse and despite some variations in practice is commonly taken as the starting point for many writers about children's play. These characteristics have some consistencies in their description but one of the most well known comes from Tina Bruce:

> *The 12 features of play*
> 1 Using first-hand experiences
> 2 Making up rules
> 3 Making props
> 4 Choosing to play
> 5 Rehearsing the future
> 6 Pretending
> 7 Playing alone
> 8 Playing together
> 9 Having a personal agenda
> 10 Being deeply involved
> 11 Trying out recent learning
> 12 Co-ordinating ideas, feelings and relationships for free flow play. (2001: 117)

3 *A developmental discourse* (Ailwood, 2003: 288) which is linked to cognitive psychology and focuses on Piaget and Vygotskian views of learning outlined in Table 1.1. This is promoted through children having opportunities for dialogues about their learning which are available in 'play situations'.

> A child's play is not simply a reproduction of what he has experienced, but a creative reworking of the impressions he has acquired. (Vygotsky, 2004: 11)

For Vygotsky play provides an important context for learning and development: 'Only theories maintaining that a child does not have to satisfy the basic requirements of life, but can live in search of pleasure, could possibly suggest that a child's world is a play world' (1933: 1). But: 'The child moves forward essentially through play activity. Only in this sense can play be termed a leading activity that determines the child's development.' Of key importance here is the dialogue through which children can articulate their developing ideas and adults can interact to navigate them through the mine field of potential misconceptions and social interaction issues.

Table 1.1 Overview of key theorists and their views of learning and play

Key theorist	View of learning	View of play
Freud (1975); Erikson (1950); Winnicott (1971); Issacs (1929)	Psychoanalytic perspective	Play is a cathartic experience for children enabling the emotional and cognitive growth of children in a safe environment.
Piaget (1999); Bruner et al. (1976)	Constructivist perspective	Play is a product of assimilation. During play, children practise skills to move towards mastery and try out new combinations of behaviour in a safe setting. High value play leads to intellectual development.
Vygotsky (1978)	Social cultural perspective	Play is a vehicle for social interaction and is the leading source of development in the pre-school years. Play develops symbolic thinking by facilitating the separation of thought from objects and actions. Vygotsky questioned whether or not the child is truly free in play, as the play situation actually sets the limits on behaviour. Through language and symbolic thought, play involves self-regulatory behaviour that involves children developing the ability to plan, monitor and reflect upon their own behaviour.

Play as a precursor to formal learning

Most writers see play as making the transition to more structured learning. In this extract from Siraj-Blatchford's (2009) table of a model of pedagogic progression in play the final category focuses on this transition rather than seeing play as a continuous part of lifelong learning.

Table 1.2   Play as a transition to formal learning (Siraj-Blatchford, 2009: 82)

Playful activity	Sustained shared thinking	Pedagogy	Learning	Development potential
Transition to learning activity	Collaboration in increasingly structured activities and games with more complex rules	Encouragement of extended play (over days) to promote self regulation, planning and memory. Progressive reduction of scaffolding in planning. Scaffolding more disciplined collaborations, e.g. carrying out an 'investigation'	Reflection upon the relationship between 'pretend' signs and 'real' meanings. Orientation towards more formal learning and school Learning to learn	Towards learning to learn and the development of learning 'dispositions'

For older children curriculum objectives normally take precedence and traditionally learning is seen as a structured activity controlled by the teacher. Again this is highlighted in the extract from Table 1.2. The expected learning outcomes for older children are raised with a heavy emphasis on progress. While it is appropriate to have high expectations of children's learning and progress there is a tendency to make this type of learning routine and formulaic. For young children play is seen as a means of exploring and making sense of their environment. There is a real sense of wonder if you watch young children discovering as they explore, for example, the first time a child finds a woodlouse that will curl into a ball when touched, or a magnet attracts something metallic, or a jack in a box pops out from its box. There are so many examples of the joy of discovery that we have all witnessed with young children. Underlying this perspective is the idea that as learners we move on from 'play' to a different kind of learning with different rules and purposes.

Play for life

Others, however, see play existing throughout life – albeit manifested in different ways, depending on age, maturation, context and experience. Ortlieb explains, for example, that 'children explore their environments, adolescents engage in athletic competitions, and adults travel on vacations in hopes of experiencing the "new"' (2010: 241).

Indeed, Bergen and Williams (2008) demonstrated that when young adults were asked to recall their most salient play experiences, they tended to provide very detailed and happy memories from the age of 8–12 years.

The section below presents a set of developmental stages of play that can be seen across the primary school and beyond.

The domains of developmental stages of play

Canning reminds us that adults tend to look for the outcomes of play, rather than the 'complex processes that are happening within play' (2007: 233) and this section strives to address this issue.

There is much early years-related literature that demonstrates how play is developmentally appropriate for young children. For example,

> Play-based advocates ... believe that young children's thinking and learning is qualitatively different from that of adults. For this reason, it requires a curriculum that is commensurate with their age and developmental status. (Walsh et al. 2006: 202)

While we agree that there is a specific play-related approach to learning necessary in the early years, we wish to argue that play – in its widest sense – is appropriate for humans of *any* age. Bodrova and Leong (1996) identify three stages of play that they loosely equate to Piaget's development stages:

- Stage 1: Practice or functional play (generally observed during sensorimotor period)
- Stage 2: Symbolic play (emerges during preoperational period)
- Stage 3: Games with rules (peaks during concrete operational period).

More specifically, Liu (2008) defines the developmental stages of play in relation to the following domains:

- behavioural/physical domain (the physical well-being and motor skills)
- affective/emotional domain
- cognitive/intellectual domain (language and thought)
- social/cultural domain.

Guided by Liu's domains we have identified examples in the literature of how play develops during the primary years in these domains. While the Early Years Foundation Stage (EYFS) literature is very rich, research and its associated literature in relation to the older primary stage is sparse but growing in quantity. We intentionally choose not to identify particular age-stage-related development as Bodrova and Leong have done because, as later chapters will show, children demonstrate various behaviours and developmental outcomes in different play situations.

Although we present Table 1.3 discretely, it is important to remember that in the primary school, each of the domains are interrelated. For example, 'emotional and social development are linked because children's social interactions are usually emotionally charged' (Ashiabi, 2007: 200).

Table 1.3 The developmental domains of play

Domain	Development of domain
Social/cultural	• Natural functions become cultural functions through one's ability to self-regulate and master them. • Infants expect reciprocity in social interaction with adults. There is little or no interaction between children. This develops into children being able to take on others' perspectives and co-ordinating roles. (Fromberg, 2002; Kravtsov and Kravtsova, 2010)
Behavioural/ physical	• Children initiate their own play (e.g. shaking shakers), and later physical prowess becomes more refined. • Earlier, children express themselves in absolute terms (e.g. 'I am a good boy'). Later, children begin to describe themselves in more mixed ways, dependent on the context. • Earlier, children express their own points of view. Later, children perceive and respond to the goals, perceptions and beliefs of others. (Ensink and Mayes, 2010; Fromberg, 2002; Landry et al., 2009; Zhang et al., 2010)
Affective/ emotional	• Early on, children develop a sense of what they like and dislike to understand self. Having power in play provides children with the opportunity to develop emotionally. • Primary aged children develop a general ability to know what others may be thinking and imagine what they may be feeling. They increasingly think about themselves in terms of their behaviour, performance and interpersonal relationships. • Earlier, children turn to adults to regulate emotion. Later, self-regulation of emotion, takes the form of responsibility by the child. (Ashiabi, 2007; Canning, 2007)
Cognitive/ intellectual	• Development of self-regulated learning includes children being able to select from a repertoire of strategies and monitor their progress in using these strategies. • Play themes become more coherent and play episodes are more extended. • Language becomes more complex as the domain develops. • Earlier, there is the emergence of intentionality, then children begin to understand when a false statement is being made. Finally, the development of understanding of others' intentions in everyday communication is achieved. (Ensink and Mayes, 2010; Fromberg, 2002; Nutbrown and Clough, 2009)

Play and the 'planning paradox'

We conclude this chapter by acknowledging a particular tension (the 'planning paradox') about play in primary schools:

> Play can facilitate learning and so there is a desire to incorporate play-like freedom into more formal school-based learning, even for older pupils. However, such a strategy transfers control over what is learned away from the teacher to the pupils themselves. This is unsatisfactory if the teacher has an agenda in which certain specific knowledge should be assimilated. (Ainley et al., 2006: 23)

There is clearly a need to explore different approaches for specific groups in primary education, for example the focus on a 'dangerous books culture for boys' discussed by Gove (2010) in the *Sunday Times* after a BBC programme led by Gareth Malone introducing boys to physical challenges. While it can be easy to offer children new and novel experiences as a one-off series of sessions outside the school constraints, this can make it appear that there are simple answers to engaging learners. What is possible for a celebrity who is not bound by the rules with which most teachers work is not necessarily the immediate answer for all schools. However, within programmes like this there are elements that can easily be taken on by teachers including the use of physical activities, challenges and competition for boys. Play-based curricula are one way that teachers offer this to specific groups within their classes.

This paradox is particularly evident in primary schools in relation to accountability through the inspection and assessment procedures as the following quote for the Cambridge review of primary education shows.

> The problem of the curriculum is inseparable from the problem of assessment and testing. Unless the national assessment system is reformed, especially at KS2, changes to the curriculum will have limited impact and the curriculum outside the favoured zone of tested subjects will continue to be compromised. (Alexander et al., 2009: 3)

However, this book offers a way forward to address the issues that have been raised in this chapter. We present case studies where teachers and student teachers have taken risks in schools which are identified as 'outstanding' in Ofsted terms or in schools whose performance shows their pedagogy achieves results in national testing. Therefore we present a solution to the planning paradox – a play-based approach to learning and teaching across the primary school.

▢ Summary

This book focuses on what play in the primary school may look like and this chapter has introduced a number of ways of conceptualising play: biological, historical, societal, educational and developmental. Within the latter, play has been considered through the domains of social/cultural behavioural/physical, affective/emotional and cognitive/intellectual development. Because we know that all children develop in different ways and at different times depending on the context, we have not identified ages and stages of development within these domains. However, the literature shows us that they are evident through-out the primary school. The 'planning paradox' states that there is a tension

between a motivating, child-led curriculum and an objectives-based, teacher-led curriculum.

Reflect upon your own practice by thinking about the following questions in relation to play activities.

1 Has your perspective on play changed after reading this chapter?
2 What are the views of colleagues teaching across primary/elementary education on play?
3 What do you think society's views, including those of parents, would be on play for older children?
4 How might teaching and learning in your classroom change with more play-based activities?
5 What, at this stage, do you think would be the bigger challenges to shifting practice?

This chapter has set the scene for the remainder of this book, which continues to illustrate what play in the primary school looks like and offers a way forward to address the play and the 'planning paradox' issue commonly seen in primary schools today.

Further reading

Alexander, R., Armstrong, M., Flutter, J., Hargreaves, L., Harrison, D., Harlen, W., Hartley-Brewer, E., Kershner, R., Macbeath, J., Mavall, B., Northen, S., Pugh, G. and Utting, D. (2009) *Children, their World, their Education: Final Report and Recommendations of the Cambridge Primary Review*. London: Routledge.
Bruce, T. (2001) *Learning Through Play: Babies, Toddlers and the Foundation Years*. London: Hodder and Stoughton.
Bruner, J.S., Jolly, A., and Sylva, K. (1976) *Play: Its Role in Development and Evolution.* New York: Basic Books.
Vygotsky, L. (1933) *Play and its Role in the Mental Development of the Child*. Cambridge, MA: Voprosy.

References

Ailwood, J. (2003) 'Governing Early Childhood Education through Play', *Contemporary Issues in Early Childhood*, 4 (3): 286–99.
Ainley, J. Pratt, D. and Hansen, A. (2006) 'Connecting engagement and focus in pedagogic task design', *British Educational Research Journal*, 32 (1): 23–38.
Alexander, R., Armstrong, M., Flutter, J., Hargreaves, L., Harrison, D., Harlen, W., Hartley-Brewer, E., Kershner, R., Macbeath, J., Mavall, B., Northen, S., Pugh, G. and Utting, D. (2009) *Children, their World, their Education: Final Report and Recommendations of the Cambridge Primary Review*. London: Routledge.

Ashiabi, G. (2007) 'Play in the preschool classroom: its socioemotional significance and the teacher's role in play', *Early Childhood Education Journal*, 35 (2): 199–207.

Bergen, D. and Williams, E. (2008) *Differing childhood play experiences of young adults compared to earlier play cohorts have implications for physical, social and academic development*. Poster presentation at the annual meeting of the Association for Psychological Science, Chicago.

Bodrova, E. and Leong, D.J. (1996) 'Scaffolding children's learning in the Zone of Proximal Development', *Primary Voice*, 15: 3–5.

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

Bruner, J.S., Jolly, A. and Sylva, K. (1976). *Play: Its Role in Development and Evolution.* New York: Basic Books.

Canning, N. (2007) 'Children's empowerment in play', *European Early Childhood Education Research Journal*, 15 (2): 227–36.

Central Advisory Council for Education (CACE) (1967) *Children and their Primary Schools* ('The Plowden Report'). London: HMSO.

Craine, W. (2010) 'Is children's play innate?', *Encounter*, 23 (2): 1–3.

Department for Education (2003) *Excellence and Enjoyment: A Strategy for Primary Schools*. Nottingham: DfE.

Diamond, J. and Bond, A.B. (2003) 'A comparative analysis of social play in birds', *Behaviour*, 140 (8/9): 1091–115.

Elkonin, D.B. (2005) 'Theories of play', *Journal of Russian and East European Psychology*, 43 (2): 3–89.

Ensink, K. and Mayes, L.C. (2010) 'The development of mentalisation in children from a theory of mind perspective', *Psychoanalytic Inquiry*, 30: 301–37.

Erikson, E. (1950) *Childhood and Society*. London: Aber.

Freud, S. (1975) [1920] *Beyond the Pleasure Principle.* New York: Norton.

Fromberg, D.P. (2002) *Play and Meaning in Early Childhood Education.* Boston: Allyn & Bacon.

Garner, R. (2007) 'Primary schools "have lost their sense of fun and play"', *Independent, 13 December*.

Gilbert, C. (2006) 2020 *Vision: Report of the Teaching and Learning in 2020 Review Group*. Nottingham: DfES.

Gove (2010) 'Gove's new curriculum: Dangerous Books for Boys', *The Sunday Times*, 12 September. Available at: www.independent.co.uk/news/education-news/primary-school-have-lost-sence-of-fun-and-play-764797.html (accessed July 2011).

Groos, K. (1890) *The Play of Animals*. New York: Appleton.

Hall, S. (1908) *Aspects of Child Life and Education*. Boston, MA: Ginn.

Haydon L. (2008) 'Engaging primary schools learners thought a creative curiculum'. Available at: www.curee-paccts.com/files/publication/1230895566/Engaging_primary_schools_learners_through_a_creative_curriculum.pdf (accessed July 2011).

Isaacs, S. (1929) *The Nursery Years*. London: Routledge and Kegan Paul.

Kravtsov, G.G. and Kravtsova, E.E. (2010) 'Play in L.S. Vygotsky's Nonclassical Psychology', *Journal of Russian and East European Psychology*, 48 (4): 25–41.

Landry, S.H., Smith, K.E. and Swank, P.R. (2009) 'New directions in evaluating social problem solving in childhood: Early precursors and links to adolescent social competence', in C. Lewis and J.I.M. Carpendale (eds), 'Social interaction and the development of executive function', *New Directions in Child and Adolescent Development,* 123: 51–68.

Liu, Y. (2008) 'Understanding play and literacy development in the young child', *Jackson State University Researcher*, 21 (4): 14–50.

Loveless, A. and Thacker, J. (2005) 'Visual Literacy and ICT: "I'm only looking …"' in S. Wheeler (ed.), *Transforming Primary ICT*. Exeter: Learning Matters. pp. 114–31.

Mastrangelo, S. (2009) 'Harnessing the power of play', *Teaching Exceptional Children,* 42 (1): 34–44.

Nutbrown, C. and Clough, P. (2009) 'Citizenship and inclusion in the early years: understanding and responding to children's perspectives on "belonging"', *International Journal of Early Years Education,* 17 (3): 191–206.

Oliveira, A.F.S., Rossi, A.O., Silva, L.F.R., Lau, M.C. and Barreto, R.E. (2010) 'Play behaviour in nonhuman animals and the animal welfare issue', *Journal of Ethology*, 110: 949–62.

Ortlieb, E.T. (2010) 'The pursuit of play within the curriculum', *Journal of Instructional Psychology,* 37 (3): 241–46.

Palagi, E., Cordoni, G. and Borgognini Tarli, S.M. (2004) 'Immediate and delayed benefits of play behaviour: new evidence from Chimpanzees', *Ethology,* 27 (5): 1257–70.

Palagi, E., Paoli, T. and Borgognini Tarli, S.M. (2006) 'Short-term benefits of play behaviour and conflict prevention in Pan paniscus', *International Journal of Primatology,* 27 (5): 1257–70.

Pellegrini, A. and Boyd, B. (1993) 'The role of play in young childhood development and education: issues in definition and function', in B. Spodek (ed.), *Handbook of Research on the Education of Young Children*. New York: Macmillan. pp. 105–21.

Pellis, S.M. and Iwaniuk, A.N. (2004) 'Evolving a playful brain: A levels of control approach', *International Journal of Comparative Psychology,* 17: 92–118.

Piaget, J. (1999) *Play, Dreams and Imitation in Childhood*. London: Routledge.

Siraj-Blatchford, I. (2009) 'Conceptualising progression in the pedagogy of play and sustained shared thinking in early childhood education: a Vygotskian perspective', *Educational and Child Psychology,* 26 (2): 77–89.

Spencer, H. (1898) *Recent Discussions in Science, Philosophy and Morals.* New York: Appleton.

Strandell, H. (2000) 'What is the use of Children's Play: preparation or social participation?', in H. Penn (ed.), *Early Childhood Services: theory, policy and practice*. Buckingham: Open University Press. pp. 147–57.

Vygotsky, L. (1933) 'Play and its role in the mental development of the child', Voprosy.

Vygotsky, L.S. (1978) *Mind and Society: The Development of Higher Physiological Processes*. Cambridge, MA: Harvard University Press.

Vygotsky, L. (2004) 'Imagination and creativity in childhood', *Journal of Russian and East European Psychology*, *42* (1): 4–84.

Walsh, G., Sproule, L., McGuinness, C., Trew, K., Rafferty, H. and Sheehy, N. (2006) 'An appropriate curriculum for 4–5-year-old children in Northern Ireland: comparing play-based and formal approaches', *Early Years* 26, (2): 201–21.

Winnicott, D. (1971) *Playing and Reality*. London: Tavistock Publications.

Zhang, J., Fallon, M. and Kim, E.J. (2010) 'The Reggio Emilia curricular approach for enhancing play development of young children', *Curriculum and Teaching Dialogue*, 12 (1–2): 85–99.