

Aistear

Creatchuraclam na Luath-Óige
The Early Childhood Curriculum Framework

**Children's early learning
and development**

A research paper

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Glossary

Additional needs is a term which acknowledges that some children have additional individual needs such as those resulting from a disability or a specific learning difficulty or may have a continuing health condition that affects their life.

Anthroposophy is a philosophy coined by Steiner, which rejected Judeo-Christian theology in favour of the mystical, spiritual insights of human beings.

Anti-discriminatory practice involves valuing children, protecting them from discrimination, challenging discriminatory practices, and providing positive models and images for children from a young age.

Assimilation and accommodation are aspects of Piaget's theory. In assimilation, children match information, concepts, and skills arising from interaction with the environment with previously formed mental structures. Accommodation, on the other hand, requires that children modify structures in order to make sense of the new information or concepts, or to represent new skills.

Constructivism is the psychological theory emanating from Piaget, Vygotsky and others, which proposes that humans construct their own knowledge, intelligence and morality through a series of stages and often in collaboration with others.

Critical or sensitive periods are windows of opportunity in time, where a child is most receptive to learn with the least amount of effort.

Culture infers an identity which everyone has, based on a number of factors from memories, ethnic identity, family attitudes to child rearing, class, money, religious or other celebrations, or division of family roles according to gender or age. Culture evolves for individuals and communities.

Development is the process by which a person changes and grows over time, influenced by both experiences and physiological changes. It has two dimensions: normative (following a prescribed pattern) and dynamic (depending on time and experience).

Developmentally appropriate practice is educational practice that embraces children's developmental stages. This term has been criticised in the past because it is based on universal laws of development, emerging from a Western ideology, and without definition may *not* be appropriate depending on the cultural context (Woodhead, 1996). The term coined in the literature as an alternative, is *practice appropriate to the context of early development*.

Disequilibrium is the opposite of equilibrium (see below); when a child's previously held ideas are challenged. Conflict can create disequilibrium within a child.

Early childhood is defined as the period before compulsory schooling; in Ireland the early childhood period extends from birth to six years.

Emergent curriculum is a curriculum that arises from children's interests and adults' understanding of children's needs.

Equilibrium as conceived by Piaget (1968, p. 101) is the *compensation resulting from the activities of the subject in response to external intrusions*. In other words we continually strive for balance between understanding what we know (assimilation) and adjusting to the new (accommodation). This is an active process leading to the concept of active learning.

Gifts and Occupations are materials Froebel developed to use with infants and young children.

Interpretive theoretical perspectives, or approaches to the study of children, address the fundamental question of how children come to invest cultural resources with meaning.

Learning is a complex, dynamic and interactive process whereby knowledge is created through the transformation of experience.

Oracy is the expertise, skill and knowledge involved in effective verbal communication.

Parent is used to refer to the primary caregiver. This caregiver could be a grandparent, step-parent, guardian, foster parent or relation other than the father or mother.

Pedagogy from the sociology of childhood is *analytically distinct* and *complementary* to curriculum (Siraj-Blatchford, 2004, p. 137). Pedagogy is defined as the *practice or the art, science, craft of teaching; therefore to be a pedagogue is to be a teacher; it refers to the interactive process between teacher and learner and the learning environment (which includes family and community)* (Siraj-Blatchford, 2004, p. 138). It is about knowing what is appropriate or less appropriate for children (van Manen, 1999).

Reflective practice involves adults thinking about their work with children and planning and implementing the curriculum to best support the children's interests and strengths. Observing, listening and discussing with colleagues are key components of reflective practice.

Scaffolding is a process by which adults support and guide children's learning, enabling children to reach to the next level of ability, beyond their own personal capability at that time. The term was coined by Bruner building on Vygotsky's work.

Socio-culturalism is interpreted broadly to incorporate *the range of perspectives such as social-constructivism, activity theory and post-modern views of co-construction that are currently influential in early childhood care and education* in Anning, Cullen and Fleer (2004, p. 1).

Zone of proximal development according to Vygotsky (1978, p. 86) is *the distance between the [child's] actual developmental level as determined by independent problem solving and the [child's] level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.*

Introduction

Ireland has enjoyed profound economic, demographic, cultural and social change since the 1980s. An improvement in public finances, lower inflation, economic growth, manufacturing output and export growth have become hallmarks of life in Ireland at the beginning of the twenty-first century. The Central Statistics Office (CSO, 2005) observes that the population in Ireland has increased by over twelve per cent to more than four million in the period 1995-2004. The Office noted the employment rate in Ireland rose from fifty-four per cent in 1995 to sixty-five and a half per cent in 2004 with a reversal of the trend of emigration toward immigration contributing to an increasingly diverse and multicultural society. However, as the National Economic and Social Forum (NESF, 2005) report highlighted, in spite of our healthy economy, social deficits - including educational disadvantage, limited childcare and barriers to full engagement in society for people with a disability - require more attention. With increased participation in employment by women - from thirty-five per cent in 1990 to over forty-nine per cent in 2004 (CSO, 2005) there is a growing demand for childcare places. In addition, according to the Centre for Early Childhood Development and Education (CECDE, 2005, p. 6), parents are increasingly interested and concerned with *their children's holistic development, including their cognitive, emotional and social development*.

The changing nature of childhood itself in the 21st Century has become a persistent public concern. In response to a debate which emerged in the United Kingdom (UK) regarding the escalating incidences of childhood depression and children's behavioural and developmental conditions Murray (The Irish Times, September 2006) reported that there was cause for real concern. Responsible parents and professionals in Ireland have also issued warnings about the stresses on children, the erosion of innocence, the sexualisation of children and the influence of inappropriate media images on the heart and mind of the child (Daly, 2004; Murray, September 2006). Furthermore there is anxiety regarding the rise of obesity, diabetes, anorexia and bulimia among children, the emergence of the child consumer with a disposable income, and the increase in substance and alcohol abuse, violence, and self-harm amongst young people. These problems are complex, and without a ready solution. While the forthcoming National Longitudinal Study of Children in Ireland launched in January 2007 (*Growing Up in Ireland*, led by the Economic and Social Research Institute and Trinity College, Dublin) will give some insights into children's lives, we need to engage in authentic debate about how we are going to improve children's well-being. Rather than bemoaning the demise of childhood it is vital that we celebrate the benefits we have gained regarding educational opportunities, dental and health improvements, greater gender and social equality which are greatly superior to those experienced by children in the past.

Murray (The Irish Times, September 16, 2006) advised that we can *challenge what is inappropriate to their developmental needs*. Children have a need for play, for *space to initiate their own creative, imaginative, symbolic worlds, not just be passive recipients of prefabricated fantasy*. Children need time and limits. Children also have a human right to be protected from the mental violence of age-inappropriate media exposure, uncensored chat rooms and internet marketing. The Children's Rights Alliance (2007) advocated that the expected referendum on children's rights within the Irish Constitution should result in an amendment whereby the Constitution includes a statement highlighting that the State values and respects childhood and will facilitate children to reach their full potential and be protected from all forms of physical, emotional, sexual abuse and from exploitation. As a society we must ensure that children's developmental needs are met and their rights protected.

This research paper *Children's early learning and development* responds to the question - *how should we understand the child as a young learner?* Informed by traditional and contemporary literature on education, health sciences, sociology of childhood, anthropology, cultural studies, and philosophy, a range of perspectives on how children learn and develop are explored. The paper situates the discussion on how children learn and develop in early childhood, in Ireland. In doing this, it draws particular attention to relevant legislative and policy developments. The paper then explores key features of the processes through which children learn and develop. As part of the preparatory work for the *Framework for Early Learning*¹, the

¹ The *Framework for Early Learning* was renamed *Aistear: the Early Childhood Curriculum Framework* in 2009.

National Council for Curriculum and Assessment (NCCA) developed a document entitled, *Early Childhood Framework, Background Paper* (2001). This document presented a review of literature concerning how children learn and develop, and a review of early childhood curriculum materials used nationally and internationally. During the development of the paper and later the consultative document, *Towards a Framework for Early Learning* (2004), the NCCA identified common principles of early childhood care and education. These principles are reflected in the headings used to organise this research paper on how children learn and develop. The paper looks at how we should conceptualise the child before going on to discuss equality and diversity, active learning and meaning making, relationships, language and communication, the learning environment and play. The paper then looks at the whole child in context and at early childhood curriculum. The concluding comments clarify and summarise the key messages from across the paper.

The legislative and policy context

Ireland has experienced unprecedented change regarding early childhood care and education legislation and policy, over the last decade and a half. Legislative developments include:

- Child Care Act (Department of Health and Children, 1991)
- Child Care (Pre-School Services) Regulations, Part VII of Child Care Act, 1991, published in 1996 (Department of Health and Children) – revised in 2006
- Ratification of the United Nations Convention on the Rights of the Child (UNCRC, 1992)
- Children First - National Guidelines for the Protection and Welfare of Children (Department of Health and Children, 1999) - currently under review
- Education for Persons with Special Educational Needs Act (Department of Education and Science, 2004).

Early childhood care and education (ECCE) outside families and the junior and senior infant classes in primary schools, is provided by the private, voluntary and community sector. This results in a great diversity of service provision which includes nurseries, crèches, playgroups, grúpa naíonraí, childminders and pre-schools. Different settings operate within different philosophies such as Froebel, High/Scope, Montessori, Steiner, and play-based philosophies, while others such as infant classes are underpinned by the *Primary School Curriculum* (Department of Education and Science, 1999b). Whereas there are regulations for pre-school settings and a national curriculum for children in the formal education system, there are no universal standards covering all children from birth to six years currently in ECCE settings. Although there are no standard qualifications required for the adults who work in ECCE settings outside of infant classes there are, however, a number of initiatives as outlined below, that concern the area of ECCE.

Regarding policy, the National Forum for Early Childhood Education (Department of Education and Science [DES], 1998) was instrumental in informing *Ready to Learn: The White Paper on Early Education* (Department of Education and Science, 1999a) and the establishment of the Centre for Early Childhood Development and Education (CECDE) in 2002. The CECDE has developed *Síolta, The National Quality Framework for Early Childhood Education* (NQF/ECE) (2006). The development of *Síolta* marks a milestone in the quest for quality early childhood education provision in Ireland and provides a reference point for all those involved in early childhood care and education services in this quest. The *OECD Thematic Review of Early Childhood Education and Care Policy* in Ireland (DES, 2004) has enhanced our knowledge of the sector. Other significant developments include the *National Economic and Social Forum (NESF) Report on Early Childhood Care and Education* (2005). Still to be developed is the strategy to support families (forthcoming, Department of Health and Children) to guide the development and operation of appropriate services, and the Department of Social and Family Affairs' Family Policy (forthcoming). The newly established Office of the Minister for Children, is a welcome development in response to the need for increased co-ordination of early childhood care and education across the Departments of Health and Children, Education and Science, and Justice, Equality and Law Reform.

A framework for early learning

Another significant development which relates directly to this paper is the consultation organised by the NCCA and summarised in the document *Towards a Framework for Early Learning, Final Consultation Report* (NCCA, 2005). The consultative document, *Towards a Framework for Early Learning* (NCCA, 2004) which underpinned the consultation, paved the way for a national curriculum framework to support children's early learning and development from birth to six years. This Framework is

... intended for adults in all early childhood settings who have responsibility for nurturing children's learning and development. It will support these adults in giving children learning opportunities responsive to their individual strengths and needs, and so help them to realise their full potential as learners. (NCCA, 2004, p. 4)

In exploring the image of the child as an active and inquisitive young learner, the consultative document used the terms learning and development interchangeably. The purpose of this research paper is to tease out how learning and development take place. Informed by an extensive review of literature, the paper identifies and discusses important aspects of this learning and development. The discussion draws on many disciplines bringing us to the contemporary view of children as learners which underpins the *Framework for Early Learning*².

There is a long history and interest in early learning and development from Plato (427-347 B.C.) to the present, with each generation of theorists having integrated and transformed past discoveries. New ideas are constantly emerging from the natural and social sciences, from philosophy, sociology, and introspective psychology, all operating within differing ethical, political and social traditions. As such, each theory in itself represents one possible way of thinking and acting. The NCCA hopes that this paper will stimulate and encourage dialogue, reflection and action about how we in Ireland understand how children learn and develop, and how they can be supported in this. The paper therefore is a stimulus for dialogue rather than a statement of fact. As articulated by New (1999, p. 281) *there is a need for adults to struggle aloud and together ... knowing that their choices create as well as preclude opportunities for children's current learning and future lives.*

² As noted earlier, the *Framework for Early Learning* was renamed *Aistear: the Early Childhood Curriculum Framework* in 2009.

Early learning and development

As outlined earlier, in the document *Early Childhood Framework, Background Paper* (2001), the NCCA highlighted common principles which underpinned the curriculum materials shaping early childhood practice in Ireland. These principles emerged from a review of the literature in the field of early childhood research, and from curriculum guidelines including the Infant Curriculum as part of the *Primary School Curriculum* (Department of Education and Science, 1999b). This paper provides a more detailed review of the research literature and uses the principles as lenses to highlight important messages which inform contemporary thinking about how children learn and develop. The headings used to guide the discussion are:

- equality and diversity
- active learning and meaning making
- relationships
- communication and language
- the environment
- play
- the whole child in context
- early childhood curriculum.

One of the oldest and most central theoretical debates within psychology and philosophy concerns whether children's learning and development is as a result of their genetic inheritance (nature) or the influence of the environment in which they find themselves (nurture). What is clear is that both genetic and environmental factors play vital roles in a child's life chances (French and Murphy, 2005). Children's experiences in their early years have a profound impact on their later social, emotional and cognitive development (Home-Start International, 2002).

Socio-cultural learning and development

Early childhood care and education has been challenged by a *theoretical seachange that has seen individualistic developmental explanations for learning and development replaced by theories that foreground the cultural and socially constructed nature of learning* (Anning, Cullen and Fleer, 2004, p. 1). Current thinking attests to the importance if not the domination of social and cultural processes (Rogoff, 1990; Bruner, 1996). From this perspective, the separate and distinct processes of learning and development (see Glossary, pp. 4-5) are inextricably intertwined and are *embedded in the context of social relationships* (Rogoff, 1990, p. 8). Bronfenbrenner's *Ecological System's Theory* (1989) provides a framework which situates individual development in the context in which it occurs. Therefore, the child develops not in isolation but through relationships within the family, neighbourhood, community, and society. This socio-cultural understanding of learning and development underpins this research paper.

How should we conceptualise the child?

Any exploration of how children learn and develop is informed by a particular view of the child. The NCCA's consultative document, *Towards a Framework for Early Learning* (NCCA, 2004) is premised on the understanding of the child as *rich in potential, strong, powerful, competent and most of all connected to adults and to other children* (Malaguzzi, 1993a, p. 10). Dahlberg, Moss and Pence (1999) enhanced this view of an intelligent child, a co-creator of knowledge; a researcher actively seeking to make meaning of the world. This understanding of children challenges Locke's child as one of knowledge and culture reproducer. This child was considered to be a *tabula rasa* or empty vessel needing to be filled with knowledge, skills and dominant cultural values and to be made ready to learn and for school (Krogh and Slentz, 2001). In addition the innocence of Rousseau's child is challenged—the image of the child enjoying a golden age of

life, uncorrupted by the world (Seefeldt, 1999). Finally, the child as *an essential being of universal properties and inherent capabilities whose development is innate, biologically determined and follows general laws* is also challenged (Dahlberg *et al*, 1999, p. 46). Reggio Emilia chose to move from this perspective to understanding the child as an individual with rights (Philips, 2001). These past understandings of the child as a learner create an image of the needy child. Furthermore they negate the current conception of the child as a young citizen (Dunne, 2005).

New understandings of children

New ways of conceptualising children arise from the sociology of childhood (Connell, 1987; James and Prout, 1990; Prout and James 1997). Childhood and all social objects (class, gender, race, and ethnicity) are seen as being interpreted, debated, and defined in processes in social action. Corsaro (1987) suggests that, children and adults alike are seen as active participants in the social construction of childhood and in the reproduction of their shared culture. Children are seen as having agency and power within their own right, not just in relation to the social constructions assigned to them by adults (Prout and James, 1997). Traditional theories viewed children as consumers of the culture established by adults. This new construction of childhood is oriented towards the child's present rather than the future.

The image of the child-developing-in-context (Rogoff, 1990) provides for a more dynamic conception of learning and development and opens the lens through which we observe children. The child's participation in multiple socio-cultural contexts of the family, the community and society at large is recognised. In doing so, we can choose to see the child as having *surprising and extraordinary strengths and capabilities* (Malaguzzi, 1993b, p. 73). Gardner's (1993) theory of multiple intelligences (linguistic, musical, logico-mathematical, bodily-kinaesthetic, among others) celebrates the variety of human capabilities and expression. Collectively, these views give rise to the principles underpinning the consultative document (NCCA, 2004) and ultimately the *Framework for Early Learning*.

Equality and diversity

All children are individuals, unique in their abilities, from a rich diversity of backgrounds, beliefs and cultures. All children have the right to be treated with respect, positive regard and dignity. Articles 29 and 30 of the *United Nations Convention on the Rights of the Child* (1989) state clearly that respect and recognition for the child's own cultural identity, values and language (and that of others), should be part of his/her education. This section explores the importance of attending to diversity issues when working and learning with children.

Towards inclusive practice

There is clear evidence that children's positive concepts of ethnic identity are related to self-esteem, reduced levels of depression and optimism (Martinez and Dukes, 1997; Roberts, Phinney, Masses, Chen, Roberts, and Romero, 1999). It is also known that biases can develop very early in young children (Krogh and Slentz, 2001). Through participating in everyday activities/routines and play, children absorb messages from people and the environment regarding their identity and social values. Bonel and Lindon (1993) noted that practitioners should be aware of and respect areas of *difference* such as gender, faith/no faith or family structure. These form part of a child's home experience and individual identity. *Difference* in this sense should be respected in every aspect of early childhood work. By exploring our own and other cultural daily practices/routines, we gain appreciation of our common humanity as well as providing the optimal environment for children's cognitive, emotional and social growth (Lave and Wenger, 1992).

Murray and O'Doherty (2001) strongly advocate the anti-bias approach for diversity education, which is relevant for all children in Ireland including ethnic minority children and dominant culture children. This approach goes beyond cultural issues and also addresses class, language, faith, gender, and disability (Derman-Sparks, 1989). All forms of bias are challenged, and children are supported in developing empathy and thus recognising and resisting bias or discrimination. The underlying intent of an anti-bias approach to

learning is to support children and adults in becoming critical thinkers and becoming active in building a more caring, just society for all. However, the anti-bias approach although important, may not be sufficient. Tobin (2006) suggests that to better serve children from newly arrived international families there is a need to shift from an anti-bias to a cultural negotiation paradigm. Cultural negotiation involves listening deeply to and engaging with families and subsequently modifying settings based on their requirements.

The NCCA (2005) produced guidelines called *Intercultural Education in the Primary School* to support teachers in enabling children to respect and celebrate diversity, to promote equality, and to challenge unfair discrimination. Intercultural education *recognises the normality of diversity in all areas of human life. It sensitises the learner to the idea that humans have naturally developed a range of different ways of life, customs and worldviews, and that this breadth of human life enriches all of us* (NCCA, 2005, p. 3). Similarly, the *Primary School Curriculum* (Department of Education and Science, 1999b) promotes *tolerance and respect for diversity in both the school and the community* (Introduction, Department of Education and Science, 1999b, p. 28).

Summary

These different but related approaches require a consciousness of diversity issues in all aspects of the curriculum among practitioners who work with young children in order to provide a truly inclusive learning experience for the child. Inclusive practice is best supported in settings where democracy is a guiding principle and where strategies for capturing children's voices are adopted (Clarke and Moss, 2001). Ultimately this means practitioners recognising a broad range of issues as valid topics for inclusive dialogue and decision-making; and viewing all participants, parents, carers, and children as capable because they have their own experience, ideas, interpretations, and viewpoints (Moss, 2006).

Active learning and meaning making

Early childhood is a time of tremendous opportunity for active exploration and for interpreting this experience (NCCA, 2004, p. 32). Active learning mediated through first hand experiences engages the baby, toddler and young child in following their personal interests and goals, individually, in pairs, in groups, in families, and community contexts in making sense of their world.

Child learning as an individual

Piaget (cited in Wood, 1998) believed that all children pass through a series of developmental stages before they construct the ability to perceive, reason and understand in mature rational terms. Piaget and Inhelder (1969) claimed that the essential nature of human beings was their power to construct knowledge through adaptation to the environment. Thus, through assimilation and accommodation the child is in a continual process of cognitive self-correction. The goal of this activity is a better sense of equilibrium. Equilibration is fundamental to learning (Krogh and Slentz, 2001). Piaget's key contribution to child development is his teaching that learning is a continual process of meaning making. It is not a linear input/output process as favoured by behavioural theorists (Pavlov, Skinner). Information is not simply absorbed into a memory bank but must be *worked on by the child* in order for it to make sense in terms of the learner's existing frame of reference. For example, *deliver us from evil* becomes *deliver us from eagles* which makes sense to the listener (Robson and Smedley, 1996). This example highlights the negative impact of learning experiences which are abstract and removed from the child's everyday experience (Donaldson, 1993). Children's *thinking is embedded in a context which has some meaning to them whereas much school activity ... is 'disembedded'* (Moyles, 2001, p. 14). Activities such as 'filling in the blanks', worksheets and 'colouring in' are often removed from meaning and purpose for the child and *therefore make the process of learning more difficult* (Moyles, 2001, p. 14).

In contrast, first hand learning experiences fuel children's imagination and unquenchable thirst for understanding. This type of learning occurs in everyday contexts when children engage in activities which matter to them (Rich and Drummond, 2006). In designing an *involvement scale* for assessing children's

learning and development, Laevers (1997) identified signs of individual active engagement such as concentration, energy, complexity and creativity, facial expression and composure, persistence, precision, reaction time, verbal expression, and satisfaction. Children need to be involved in their learning and it has to be real and meaningful to them.

Child learning with others

Dewey (1959, p. 27) also viewed learning as *a continuing reconstruction of experience*. Thus the optimal education should be both active and constructive. This kind of education has a social direction through *a joint activity* within which people consciously refer to each other's use of materials, tools, ideas, capacities, and applications (Dewey, 1966, p. 39). Dewey placed greater emphasis on interaction, than did Piaget. His focus was on designing a curriculum to reflect the circumstances children faced as members of a community living in the modern world. Fostering democracy, independence and real experiences in the classroom were major goals for Dewey. True collaborative exploration takes place where all participants influence the direction, timing, and outcome of the investigation. In such a social setting, according to Rinaldi (1992, p. 5), *doubt and amazement are welcome factors in a deductive method similar to the one used by a detective ... where the probable and the possible are assigned a place*.

Vygotsky also stressed children's active role in human development (1978). Unlike Piaget, he believed that children's development arises from the child's attempts to deal with everyday problems. Furthermore, in dealing with these problems, the child *always* develops strategies collectively—that is, in interaction with others. According to Vygotsky (1978, p. 57), *every function in the child's development appears twice: first on the social level and later on the individual level*. A significant proportion of children's everyday activities take place in what Vygotsky (1978, p. 86) calls the *zone of proximal development*. Modern day theorists (Rogoff, Bruner, Bronfenbrenner, Egan, Lave and Wenger) further developed Vygotsky's views. Wood *et al*, (1976) stressed the importance of the role of the adult and capable peers and identified that the key challenge for adults then becomes one of defining the limits of the zone, matching or tuning the adult support, or scaffolding the learning to a point beyond the child's current capabilities. Bronfenbrenner's work concurs, although he placed an even greater emphasis on the relationship between adult and child:

Learning and development are facilitated by the participation of the developing person in progressively more complex patterns of reciprocal activity with someone with whom that person has developed a strong and enduring emotional attachment and when the balance of power gradually shifts in favour of the developing person (Bronfenbrenner, 1979, p. 60).

Brain research

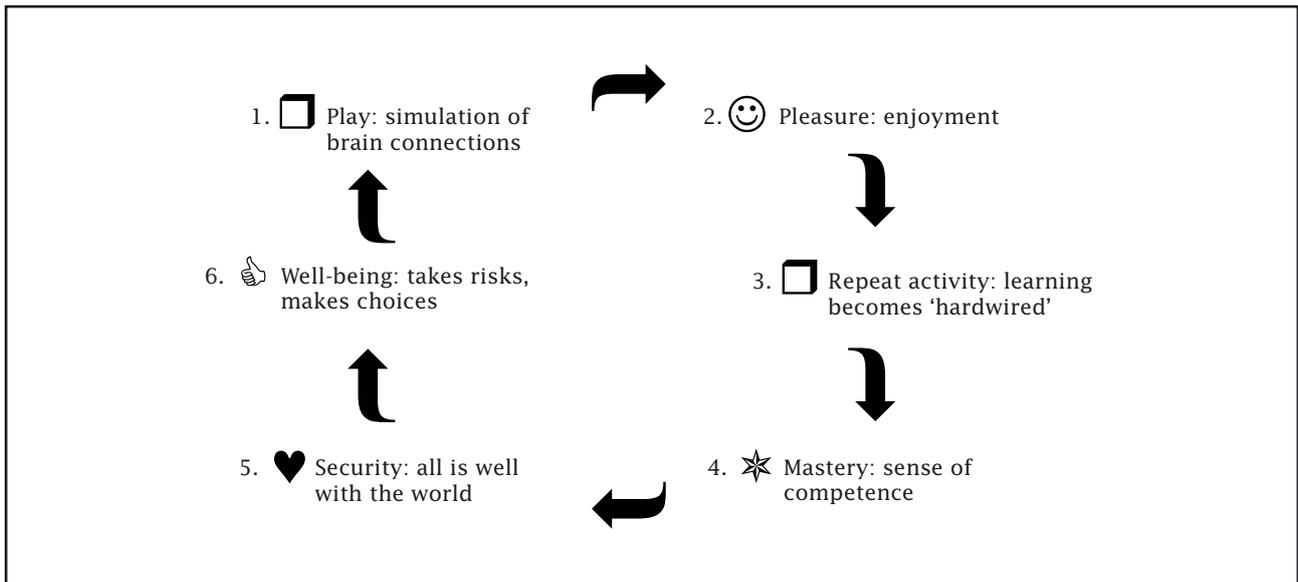
Research on brain development (although in its infancy) has suggested that direct action - physical and intellectual engagement with experiences - in addition to problem-solving and repetition, ensures that the synapses or neural pathways become stronger (Bruce, 2004). According to French and Murphy (2005), this is particularly true of children aged from birth to three years as early experience determines how the neural circuits in the brain are connected (Bertenthal and Campos, 1987). Children who are played with, spoken to, and allowed to explore stimulating surroundings are more likely to develop improved neural connections which aid later learning (Karr-Morse and Wiley, 1997). The stimulation babies, toddlers and young children receive determines which synapses form in the brain, that is, which pathways become hardwired. Through repetition these brain connections become permanent. Conversely, a connection that is not used at all or often enough is unlikely to survive. Children who learn actively have positive dispositions to learning. These children are interested in what they are doing, experience enjoyment and, with repetition, experience the probability of success. They develop competence and, as a result, confidence and are intrinsically motivated to learn (Hohmann and Weikart, 1995).

Cycle of active learning

The role of active learning in supporting children's well-being and early learning and development is illustrated in Figure 1: the active learning cycle (Marshall 2005).



Figure 1: Active learning cycle



The adult has a responsibility to provide rich environments where children are able to *explore, touch, manipulate and experiment with different materials* (Smith, Cowie and Blades, 2005, p. 413) and where children can ask questions, make hypothesis and form new concepts. Children have to construct learning for themselves, with the focus of learning on the reasoning processes rather than on the end products. This requires time for children to engage in their explorations.

Summary

Using key findings from theorists such as Piaget, Dewey, Vygotsky, Donaldson, and Bronfenbrenner, and research on brain development, this section has explored the importance of activity and first hand experiences in supporting children's early learning and development. It has highlighted the adult's role in providing for and enriching this activity. These theorists have placed action and self-directed problem-solving at the heart of children's early learning and development. The consensus has moved firmly towards learning and developing in collaboration with others, and democracy between adult and child and more recently, child and child. This warrants an exploration of the crucial nature of relationships in early childhood.

Relationships

A child's well-being is an essential foundation for early learning, and all subsequent learning. It is nurtured within the context of warm and supportive relationships with others ... their emotional well-being is directly related to the quality of early attachments (NCCA, 2004, p. 23). Mirroring Bronfenbrenner's systems model (1979; 1989), this section examines the role of different relationships in supporting the child's learning and development.

The individual child

All babies are born with universal aspects to their development such as automatic reflexes or muscles that always develop from the head down. There are also fundamental variations. All babies cry, but some cry more than others. These differences can be ascribed to the individual temperament of the child. Temperament has been defined as *the inbuilt predispositions that form the foundations of personality* (Bee and Boyd, 2004, p. 79). Thomas and Chess (1977) identified that from birth, babies have been found to be different from each other in nine ways: activity level, adaptability, approach/withdrawal to novelty, attention span, distractibility, intensity of reaction, mood, regularity, and sensitivity threshold. These traits are shaped, strengthened or counteracted by the child's relationships and experiences. Children with more challenging temperaments may find it more

difficult to deal with life's stresses. Supportive, responsive adults in a low stress, accepting environment reduce this potential difficulty (Fish, Stifter and Belsky, 1991). In these environments, relationships enhance and enrich learning and development supporting many children to move through childhood with relative ease.

The building blocks of human relationships

When children from birth are treated with warmth, respect and interest from responsive adults they are confident to learn and develop through sensory-motor exploration. Hohmann and Weikart (1995) building on the work of Erikson, identified five building blocks of human relationships. Thus, *trust* is a confident belief in oneself and in others that allows a young child to explore the unknown knowing that the people on whom s/he depends will provide needed support and encouragement. *Autonomy* is the capacity for independence, identity, exploration and thinking that prompts a child to make such statements as; *I wonder what is around the corner* and *let me do it*. *Initiative* is the capacity for children to begin and then follow through on a task - to take stock of a situation, make a decision and act on what they have come to understand. *Empathy* is the capacity that allows children to understand others' feelings by relating them to feelings that they themselves have had. Empathy helps children form relationships and develop a sense of belonging. *Self-confidence* is the capacity to believe in one's own ability to accomplish tasks, communicate and contribute positively to society.

These five capacities provide the foundation for much of the socialisation that occurs as children develop and blossom in an environment that supports the growth of positive social relationships. These capacities are fundamentally linked to the *Framework for Early Learning's* themes of Well-being, Identity and Belonging, Communicating, and Exploring and Thinking. Socio-cultural theory emphasises how intellectual capacity is intimately connected to social activity. Trevarthen (1998, p. 98) argues that the motivation, medium and outcome of learning is *intersubjectivity* which is a continual process of meaning making; the construction and reconstruction of joint purposes between a child as innate companion and co-participant. Relationships are therefore vital for a sense of identity and of separateness. Trevarthen (2001) describes human reciprocal relationships as *developing companionships*.

The child and family

The crucial role of the family as *the natural and primary educator of the child* (Article 42.1 of the Constitution [1937]) with rights and duties to active participation in the child's education, is reflected in legislation and policy in Ireland. This role necessitates the development of strong working relationships between parents/family and practitioners/childminders based on a shared sense of purpose and mutual respect in order to create environments for children to support their optimal learning and development. The evidence strongly suggests that participation of parents in their child's care and education improves children's cognitive and social development and motivation and leads to higher adult expectations and increased parental confidence and aspirations (Schweinhart, Montie, Xiang, Barnett, Belfield and Nores, 2004; Taggart, 2007). The National Early Years Network's (1997) research in the US revealed that greater involvement by parents in their children's care and education leads to:

- more sharing of information between parents and practitioners/childminders
- parents spending more time in the setting
- parents improving their knowledge of parenting and child development generally
- family values and beliefs being understood and taken account of by the practitioner/childminder
- a more emotionally secure environment for the child
- parents being viewed as valuable resources bringing added value to the setting
- parents feeling more confident about engaging in dialogue regarding their children's later education.

Guided by the collective purpose of supporting the child, parents and practitioners/childminders bring different but important and complementary skills to caring for and educating children. Supportive and trusting relationships between parents and practitioners/childminders are therefore critical in supporting children's learning and development.

The child and practitioner/childminder relationships

Adults' development of supportive relationships with babies, toddlers and young children is especially significant for children's emotional and social development. The importance of babies' attachment to their parents (mothers and fathers) has long been acknowledged (Bowlby, 1988). The part of the brain that deals with memories and coincides with the child's growing awareness of and attachment to caregivers, develops between the age of six and eight months. The experience young babies have of forming relationships at this time influences all future relationships (Perry, 1995; Karr-Morse and Wiley, 1997). Attachments between children and adults are critical in assuring the baby he/she will be taken care of, building in him/her a basic trust in others and giving the baby the sense that s/he is worth caring for. As articulated by Goldschmied and Jackson (1994, p. 37)

The young children with whom we work, and who do not yet have language to express what they are experiencing, need to have these special relationships too, and deeply need to have them in a very immediate and concrete way. ... We can never remind ourselves too often that a child, particularly a very young and almost totally dependent one, is the only person in the nursery who cannot understand why he is there. He can only explain it as abandonment, and unless he is helped in a positive and affectionate way, this will mean levels of anxiety greater than he can tolerate.

In general, babies depend on adults to meet their needs, and cope with little discomfort or distress. Toddlers rapidly acquire physical, social, reasoning, and language skills, but these skills still need a lot of practice. Through the development of positive relationships and problem-solving skills, young children begin to understand how to respect the needs/rights of others while meeting their own needs/rights (Gartrell and King, 2004). They also begin to see that there is not always a *right* side to the argument, that the feelings of others are important and that it is possible to solve conflicts in such a way that both parties can be satisfied. Corsaro (1997) noted that developmental psychologists have long stressed the importance of conflict and challenges for creating new cognitive structures and skills. When adults facilitate problem-solving children learn to collaborate, discuss details of problems (number; space; time) and discover there are many possible solutions to problems (Evans, 2002).

Collaborative and shared learning

The adult role and collaborative teamwork are fundamental to developing positive relationships with children and their families (Bruner, 1996). Hohmann and Weikart (1995, p. 43) declare *a supportive interpersonal climate* is essential for learning. Both Dewey (1966) and Vygotsky (1978) proposed that learning is a reciprocal and collaborative process between adult and child. This involves active listening and reflection, in order to create a *pedagogy of listening* (Rinaldi, 2005) and a *pedagogy of relationships* (Malaguzzi, 1993b). This approach sees the adult as a teacher-researcher, a resource and guide to children; a catalyst to provoke, co-construct, and stimulate children's thinking and their collaboration with peers (Dewey, 1966). Vygotsky's concept of the *zone of proximal development*, Rogoff's (1990) model of *guided participation* and Trevarthen's (1998) *intersubjectivity* have helped adults to realise that children learn as social beings in daily interactions, with the support of others. The *Primary School Curriculum* (Department of Education and Science, 1999b) is premised on the principle that collaborative learning provides many advantages such as *children are stimulated by hearing the ideas and opinions of others, and by having the opportunity to react to them. Collaborative work exposes children to the individual perceptions that others may have of a problem or a situation* (Introduction, 1999b, p. 17). The *Primary School Curriculum* also emphasises the importance of the teacher using information he/she gathers about the child, to ensure that the learning opportunities and activities are effective in advancing the child's learning. Attention to the emotional state of babies and *a capacity to slow down and tune into young children's ways of experiencing the world* demands key worker systems especially for babies (Anning and Edwards, 1999, p. 64). This new understanding requires adults to take a more active participatory role as opposed to a didactic role in supporting children's learning.

The child and community

Socio-cultural theory has been influential in guiding the early childhood profession towards a more community-spirited approach to children's learning and development (Cowie and Carr, 2004). Socio-cultural theory supports a view of learning as work in progress. Rogoff (2003, p. 60) suggests that in socio-cultural research children are observed within a dynamic and evolving cultural context. ... *we see a glimpse of a moving picture involving the history of the activities and the transformations towards the future in which people and their communities engage.* Lenses continually move back and forth from the intra-personal/personal to the interpersonal to the cultural/institutional (Rogoff, 2003). Lave and Wenger (1992) were also interested in the contexts in which learning takes place; speaking of *situated learning* and *communities of practice* as not just about content but about the entire social situation in which the learning takes place. This occurs in a participatory framework, not in an individual mind and is *mediated by differences of perspective amongst co-participants* (Lave and Wenger, 1992, p. 15). New learners join *communities of practice* as apprentice learners (for example, weaving baskets) and engage in *legitimate, peripheral participation*. They become full members when they have a comprehensive understanding of the processes in which they are involved and can perform the task without thinking.

The child and society

Bourdieu (1977) offers the concept of the *habitus* to portray how members of society, through their continual and routine involvement in their social worlds, acquire a set of predispositions (habits) to behave and to perceive in a certain way. This set of predispositions is infused in early socialisation and plays itself out through the tendency of the child and all society members to maintain their sense of self and place in the world (Bourdieu, 1993). The 'mind' emerges through joint mediated activity and co-construction of learning and this activity is played out in society (Cole, 1996; Rogoff, 1990). Douglas (2004, p. 234) proposed that *every human being is part of a much larger, integrated system with a multitude of feedback loops.* Vygotsky's focus was on the nature, evolution and transmission of culture, which is learned by the child mainly through language and is considered in the next section. Drawing on his work, contemporary theory suggests that children's experiences of society can be the focus of the curriculum (Egan, 1997).

Summary

This section reflected on the importance of relationships in children's learning and development and focused on the individual child; and the child in the context of the family, carers, community, and society. Each is a stakeholder in the child's learning and development. Learning and development is shaped by the home environment, family values and beliefs, family income, physical and psychological well-being of the family, the neighbourhood, and relevant public and social policies relating to families with young children. Bronfenbrenner (1989, p. 190) explained how *young children's learning does not take place in a vacuum.* *We must explore the ecological niche in which the child is living.* As socio-cultural theory proposes, children's evolving membership in their culture, begins in the family and spirals outward as children engage with their peers and go on to create a further series of cultures which in itself is influenced by the institutional structures (faiths/non faiths, sports, leisure activities) of the adult culture (Corsaro, 1997). In this way, children's learning and development is not confined to a single environment/setting, but is continually influenced by a dynamic interplay between all those environments inhabited by the child. This includes the linguistic environment.

Communication and language

Most children are naturally disposed to communicate. This enables them to establish and maintain social relationships with others, to express and share their thoughts and feelings, to represent and to understand the world around them (NCCA, 2004, p. 29). As the *Primary School Curriculum* (Department of Education and Science, 1999b) notes, *language has a vital role to play in children's development. Much learning takes place through the interaction of language and experience* (Introduction, Department of Education and Science, 1999b, p. 15). This section explores the importance of supporting children's language and communication

as part of their learning and development in early childhood. Significantly, Egan (1997, p. 67), re-conceives education as our learning to use particular intellectual tools such as language and literacy, which shape how we make sense of the world as ours is a *peculiar languaged understanding of the world* (author's emphasis).

Language as a cultural tool

Children's development of both receptive and expressive language impacts on other domains of development (MacWhinney and Bornstein, 2003) particularly intellectual functioning and later literacy. According to Wood (1998), Vygotsky emphasised activity in learning but placed language and communication (and hence instruction) at the heart of personal and intellectual development. A key principle in Vygotsky's view was the individual's internalisation or appropriation of culture. Especially important to this process is language, which both encodes culture and is a tool for participating in culture. Vygotsky argued that language and other sign systems (for example, writing, film, and so on), like tool systems (for example, material objects like machines) are created by societies over the course of history and change with cultural development. Thus, argued Vygotsky, children, through their acquisition and use of language, come to reproduce a culture that contains the knowledge of generations.

Bruner (1990), like Piaget, emphasised the importance of biological and evolutionary constraints on human development. However, in keeping with Vygotsky he also stressed the way culture forms and transforms the child's development. Social interaction, language and instruction are central in forming the mind. He used the language of information processing in formulating his ideas grounded in a theory of culture and growth. Through language, the child reflects on his or her actions, integrates new experiences into an existing knowledge base, and seeks the co-operation of others in his/her activities (Hohmann, Banet and Weikart, 1979).

Learning and developing using communication and language

In order to provide appropriate scaffolding for the child in learning and developing, a shared context of meaning and experience must be established. This is especially important in the first years of life, and is particularly relevant to children who do not speak Gaeilge or English as their first language or who have a specific language delay. In the early years the child's ability to communicate is not fully developed and the adult often needs to interpret or expand on the child's utterances or gestures. Through shared experiences, the child gradually makes sense of the world and of adult meaning. *The adult provides the bridge between the familiar and known to the unfamiliar and yet to be known, and responsibility is gradually transferred to the child* (Smith, 1999, p. 96). This process requires a close and nurturing relationship between adult and child.

Egan (1997) offers a summary of the human formation of language and the kind of understanding of the world and experience that stimulation and development of language capacities entail. Some level of language development occurs naturally by children being brought up in a language-using environment, but fuller development of language and its associated intellectual capacities requires deliberate teaching. Egan (1997, p. 68) has suggested that the *most important, dramatic, and vivid stories of our world and of human experience can provide an appropriate curriculum for the earliest years*. The issue of language development is critically linked to important educational questions of teaching (how much adult direction versus child initiation) and the consequences of literacy for participation in society (Wood, 1998). As advocated by the *Primary School Curriculum* (Department of Education and Science, 1999b), Wood (1998) suggests that, oracy (verbal expression by children) should be an important part of the curriculum.

Summary

This section has looked at how different theorists consider children's understanding and construction of language. Research paints a positive picture in relation to young children's language acquisition as a foundation for learning and development. Children do not think in isolation; thinking is an everyday social activity and is culturally determined (Rogoff, 1990). Experiences with others play a formative role in the development of communication skills and a rich physical environment provides numerous language opportunities.

The environment

Outdoor and indoor learning environments should be motivating and inviting to all children, so that they are encouraged and helped to explore and to use all the possibilities offered for fun, adventure, challenge and creativity (NCCA, 2004, p. 54). McMillan (cited in Smith *et al*, 2005) believed in the importance of first hand experiences and active learning. Convinced of the value of play she ensured there were ample materials available to stimulate children's imaginations. This section provides a general overview of supportive physical environments.

Characteristics of a supportive environment

The physical environment, both indoors and outdoors, encourages positive growth and development for children through opportunities to explore and learn (Finch, 1996). Safe, clean, spacious, bright, welcoming, warm, and accessible environments for children and adults, including those with additional needs, should afford opportunities to rest and play. Babies, toddlers and young children need fresh air and outdoor play space is essential if children are to have a balanced, healthy day. Learning is constrained and may be damaged if young children are required to sit still indoors, where adults do most of the talking and require children to follow their lead (Bruce, 2004). The environment should offer children opportunities to: actively explore, make decisions and follow through with their ideas; engage in co-operative, symbolic, dramatic or pretend play; move, dance and increase control over their bodies (Hohmann and Weikart, 1995).

Socio-cultural theory is concerned with children's learning in context. Children respond to the reality they see around them and what they learn reflects that reality (Penn, 2005). Environments can reflect the lives and activities of the children/families in the service to establish positive identities. In addition, environments can have resources to counteract stereotypical and discriminatory attitudes (French, 2003).

The same principles apply whether organising indoor or outdoor areas. In fact many of the activities babies, toddlers and young children enjoy indoors can be achieved outdoors and with greater freedom. If in group care, careful consideration of the organising of rooms for different age groups is necessary. Babies and toddlers need a room or home base where they can relate for part of the day with a small group of children and adults, where they can feel secure and build relationships. Older children need more space (French, 2003).

Creating the supportive environment

Montessori (cited in Smith *et al*, 2005) advocated that the learning environment should be carefully planned to meet children's needs by providing them with the optimum opportunities to work independently, to make choices, decisions and solve problems, to engage in real experiences, and to experience success. The High/Scope Educational Research Foundation (2001) suggested the space should be inviting for children and organised into well-defined areas of interest to encourage distinctive types of play. Hohmann and Weikart (1995, p. 113) noted that *the interest areas are arranged to promote visibility and easy movement between areas and are flexible to accommodate ... children's changing interests*. Steiner promoted a variety of easily accessible, open-ended, natural, found, real life materials which can be used in creative and purposeful ways and reflect children's family lives (Curtis and O'Hagan, 2004). Materials are stored so that children can find, use and return materials they need. The most effective learning comes from simple but versatile materials and environments which extend the child's imagination and can be adapted by children to suit their learning needs and level of understanding. Dowling (2000, p. 10) referred to this as an *informational environment which supports children's ability to make and learn from mistakes, discover the best way of doing things and learn how to make decisions*. The power of the environment is portrayed through Malaguzzi's (1996, p. 40) words:

... we consider the (physical) environment to be an essential constituent element of any theoretical or political research in education ... we place enormous value on the role of the environment as a motivating and animating force in creating spaces for relations, options, and emotional and cognitive situations that produce a sense of well-being and security.

Gardner (1998, p. xvi) described the environment of Reggio Emilia's infant-toddler centres and preschools as involving *young children in long term engrossing projects, which are carried out in a beautifully, healthy, love-filled setting*. All centres have a piazza: the central meeting place where children from all around the school share their play and conversations together. Abbot and Nutbrown (2001, p. 2) described how a *tetrahedron (a triangular pyramid) with the mirrored interior is often to be found there ... Mirrors proliferate in all the centres in keeping with the central philosophy of seeing oneself and of constructing one's own identity*. Reggio Emilia's schooling for multiple intelligences approach calls for the integration of the graphic arts as tools for cognitive, linguistic, and social development. Attention to light, colour and display supports aesthetic learning and development and a sense of self as children see themselves and their work represented in their physical environment. The environment verifies Malaguzzi's emphasis on the child's hundred ways of thinking, of doing, of playing, of speaking, and the need to recognise diversity, not quell it.

Summary

This section has highlighted the influence of the physical environment (both indoor and outdoor) on children's learning and development. Such influence is evidenced through the attention placed on the environment by numerous contributors to the field of early childhood care and education. This physical environment is especially critical for stimulating children's communication and play.

Play

The NCCA's consultative document (2004) identified play as one of the key contexts for children's early learning and development. Play and its role in learning and development have focussed the attention of theorists from diverse perspectives and for a considerable period of time. A consistent feature of contemporary early childhood curriculum models such as those from New Zealand, Australia, the United States (US), and Reggio Emilia, is that learning through play is *channelled through complex reciprocal and responsive relationships and is situated in activities that are socially constructed and mediated* (Wood, 2004, p. 20). These models (stemming from socio-cultural theory) share Froebel's view that play is too important to be left to chance (Curtis and O'Hagan, 2003). Like Froebel, Montessori saw the value of self-initiated activity under adult guidance. However, she placed importance on learning about real life and therefore on constructive play materials which supported sensory discrimination. Informed by contemporary views, this section illustrates the importance of play in supporting children's early learning and development.

Supporting and enabling learning and development

Wood (2004, p. 21) advocated that through play *children demonstrate improved verbal communication, high levels of social and interaction skills, creative use of play materials, imaginative and divergent thinking skills and problem-solving capacities*. Curtis and O'Hagan (2003) stressed that if play is to be seen as a process that will promote learning and development, it must be of high quality. This quality is nurtured by adults providing a rich environment and guiding children so they can develop their confidence as players and learners. As outlined by Anning *et al*, (2004, p. 17) the *maxim that children learn through play constitutes a pedagogical given in early years settings that has been influenced by developmental, play-based curriculum philosophies*. From this perspective, they reported, the adult facilitates children's development and manages the learning environment, and less frequently acts as educator.

Play as a pedagogy

Moyles, Adams and Musgrave (2002) identified that although adults endorsed the educational benefits of play, they were unsure of their role in play and how to assess the outcomes of play. Professional knowledge and expertise is critical in planning and engaging in playing, learning and teaching. Siraj-Blatchford, Sylva, Muttock, Gilden, and Bell (2002) in a study of effective pedagogy distinguished between pedagogical framing (planning for play, providing resources and a routine) on behalf of adults and pedagogical interactions (specific behaviours in face to face encounters), and indicated that both are required. They also concluded that the most effective settings had a balance between adult-initiated and child-initiated activities.

Wood (2004) suggested that a conceptual underpinning of socio-cultural and activities' theories could contribute to a firmer pedagogy of play. Play becomes understood in terms of the relationships between co-players, their actions, interactions, and the meanings they co-construct and the context in which the play occurs. Socio-cultural theories, therefore, serve to bridge the cognitive, individualistic accounts of learning as put forward by Piaget and the social, dynamic accounts of learning as proposed by Vygotsky.

Summary

This section highlighted the role of play in children's early learning and development. As Hayes (2003, p. 79) proposes, play is *a pedagogical tool for the teacher as well as a pathway for learning for the child*. What is clear is that young children learn through play in an integrated way. Using all modalities - the senses, physical activity, emotions, and representations, children indulge in and enjoy play. In essence, play is a natural vehicle for holistic learning and development.

The whole child in context

Young children learn from the range of experiences they have in their everyday lives. They don't naturally compartmentalise this learning. Children's holistic approach involves them intricately interweaving domains of social, emotional, personal, physical (sensory and motor), cognitive, linguistic, creative, aesthetic, moral, and spiritual development, and the whole system of learning processes all of which *influence each other in highly complex and sophisticated ways* (NCCA, 2004, p. 21).

Bruce, (2004, p. XV) reported how the basic processes of movement, play, communication, self-esteem, and understanding of self and others, *as well as the symbolic layerings in development (leading to dances, reading, writing, mathematical and musical notations, drawing and model making)* support children's learning and development. Erikson (1950) theorised that children from birth to approximately five years negotiate three stages of social and emotional development: trust versus mistrust, autonomy versus shame and doubt, and initiative versus guilt (see also Appendix 1). When children's experiences with adults lead to the development of trust, autonomy and initiative, children develop lasting feelings of hope, acceptance, will power and purpose. In a sense, this discussion of holistic learning and the child's development synthesises what has been discussed in this paper to date.

Criticisms of developmentally appropriate practice

Current theories of children's learning and development embrace a view of the whole child developing in context (New, 1999). This image foregrounds the child's competencies as a learner. Developmental psychology and the range of domains it offers (physical, cognitive, linguistic, and so on) have made significant contributions to our knowledge of *how* children develop. Using this information, we can identify the kinds of experiences required to support that development for children and to highlight specific disorders. It also reminds us that children perceive and organise their worlds in ways that are qualitatively different from adults. The main criticism of child development, in so far as it exists as an underpinning discipline for working with children, is that it is too narrow and confining (Woodhead, 1996; Trevarthen, 1998; Anning, *et al*, 2004; Penn, 2005; Cannella, 2005; Yelland and Kilderry, 2005). Katz and Chard (1994) signal that development has two dimensions: normative and dynamic. Researchers have asserted that normative development (where development follows a prescribed pattern) has been over emphasised in early educational literature at the cost of the dynamic nature of development (Hayes, 2004). The dynamic dimension acknowledges that *human beings change over time and with experience and it allows for delayed impact and the long-term cumulative effect of repeated or frequent experiences* (Hayes, 2004, p. 141).

The term *developmentally appropriate practice* refers to practice for education that embraces the normative developmental stage of children. This term has been criticised in the past (Woodhead, 1996) because of its base within universal laws of development, emerging from a minority world ideology and without definition may not be appropriate depending on the cultural context. In addition when the normative and dynamic dimensions of development are considered, Katz and Chard (1994, p. 19) suggest *that just because children can do something when they are young does not mean that they should do it*.

Revised guidelines produced in the US (Bredekamp and Copple, 1997) while acknowledged as giving sensible advice on *developmentally appropriate practice* in early childhood programmes, have been criticised for being value-laden, stressing *individuality, self-assertiveness, personal choice and the availability of possessions* (Penn, 2005, p. 181). This market driven approach, heightens the role of the adult but does not acknowledge the importance of child-child interactions. Instead Woodhead (1996, p. 59) has offered the term *practice appropriate to the context of early development*. Such an approach merits a holistic and integrated approach to curriculum.

Holistic development in curricula

That children learn and develop holistically is acknowledged by many educationalists (Froebel, Steiner, Malaguzzi, Montessori, Weikart). Steiner in particular exemplified the 'whole child' approach. Like Piaget he developed stages for human development which had cognitive implications for teaching and learning. However, this is only one part of the Steiner focus; through his philosophy of anthroposophy, the *journey for the soul and spirit was equally if not more important* (Krogh and Slentz, 2001, p. 89). Steiner placed great emphasis on cultivating a sense of aesthetics, empathising with fellow human beings, thinking and developing observation skills (a view shared with Montessori) and promoted children's engagement in rhythm, language, music, and movement. This emphasis on physical development is an important message (Penn, 2005). Blenkin and Kelly (1994) advocated experiential learning and sensory-based activities as opposed to pre-determined school knowledge to be taught to young children.

Some curricula emphasise the use of domains of development and correspondingly present the learning for young children as *the physical self, the psycho-social self and the thinking self* (South Australian Curriculum and Standards and Accountability Framework, 2001). The *Primary School Curriculum* (Department of Education and Science, 1999b) presents learning through curriculum areas such as language, mathematics, social, environmental and scientific education and so on, and recommends the use of topics and areas of interest particularly in infant classes to present learning in an integrated way. *For the young child, the distinctions between subjects are not relevant: what is more important is that he or she experiences a coherent learning process that accommodates a variety of elements* (Department of Education and Science, Introduction, 1999b, p. 16). A thematic approach to understanding and supporting children's learning and development as presented in the *Framework for Early Learning* developed by the NCCA, bridges the gap between the developmental domains and a more holistic and integrated approach.

Holistic development in the Framework for Early Learning

The *Framework for Early Learning's* thematic approach to presenting children's learning and development *conveys successfully the integrated and holistic development of the young learner, and the totality of his/her learning needs* (NCCA, 2004, p. 22). Bruce (1997) suggested that subjects such as mathematics and art cannot be separated; young children learn in an integrated way and not in neat, tidy compartments. Katz and Chard (1989) proposed project work (an in-depth study of a particular topic that one or more children undertake) as an ideal way of supporting learning in an integrated way. Projects can be 'going to the hospital' or 'building a house'. The thematic approach such as the NCCA's (2004) proposed themes of Well-being, Identity and Belonging, Communicating, and Exploring and Thinking bridges the developmental domains and moves towards a more integrated way of thinking about how children learn and develop. This new way of thinking continues to support children to grow and develop socially, linguistically, physically, cognitively, creatively, and so on but in a way which is more natural, more meaningful and enjoyable for children. Children's interests and needs are at the centre of what and how they learn. An effective curriculum acknowledges that children learn and develop holistically.

Summary

This section highlighted children's predisposition to learn in an integrated and connected way. Recognising the significant benefit for children's early learning and development, this holistic approach has long been supported by many educationalists (see also Appendix 1). The thematic curriculum framework being developed by the NCCA will present opportunities for practitioners to review how children's early learning and development is organised and will support them to provide for more connected and coherent learning experiences for children across early childhood.

Early childhood curriculum

Curriculum addresses the totality of the child's learning and development (NCCA, 2001, p. 10). This section considers curriculum as product and process, each deriving from a particular understanding of children as young learners. It also explores common principles from the pioneers of early education for optimal learning and development concluding with lessons from a recent study on effective pedagogic practice.

Product and process models

The product view of curriculum proposes that a body of knowledge, complete with a set of clear goals and objectives, must be imparted to the child. Bloom's (1956) Taxonomy divided learning into the domains of cognitive; affective; and psychomotor education. Scientific accuracy, structure and precision are the main features of this model. Children's individual learning styles were ignored and didactic instruction encouraged. The product or end-state was emphasised to the cost of the process. In contrast, the process model looks to the nature of the child as opposed to the nature of the knowledge to be transmitted (Kelly, 1989). The contribution of each child and his/her inherent abilities is the starting point of the curriculum which is delivered to support the distinctive thought processes, understanding and developmental profile of the child.

An appropriate curriculum

The curriculum in early childhood refers to the complete programme of activities offered to the children. It is, in effect, the totality of the policies and practices, the relationships between all involved in the setting, the experiences provided, the resources, the physical environment (indoor and outdoor), the teaching and learning styles, and the systems of assessment. An effective curriculum ensures that the child is at the centre of curriculum planning rather than the child having to fit in with service demands (Lally and Hurst, 1992). This paper suggests that in developing curriculum for birth to six-year-old children, learning is viewed in broad terms, integrating care and education and is concerned with all learning experiences planned and unplanned, formal and informal. Katz (1998) recommends that the curriculum be flexible, responding to the needs and interests of the children situated in their culture. Learning is viewed as a process and is life-long.

Core principles of practice

Bruce (1997) developed, revisited and reframed core principles of practice over a ten-year period based on the philosophies of pioneers of early education (Froebel, Montessori and Steiner). In extending this work, consideration of the practice of Malaguzzi and Weikart, socio-cultural theory and the work of Ball (1992) was incorporated.

Bruce (1997) began by articulating that the best way to prepare children for their adult life was to give them what they needed as children. Socio-cultural theory (Prout and James, 1997) advocates that children are whole people with voice and agency in their own right, who have feelings, ideas and relationships with others, and who need to be physically, psychologically, morally, and spiritually healthy. Developmental psychology points to children's inherent desire for knowledge and understanding of things around them. In addition, children develop at different rates and in different ways, and there are times when children are especially able to learn particular things (Bruce, 1997; Curtis and O'Hagan, 2003).

Children need time and space to produce work of quality and depth (Ball, 1992). Work on a project should not be limited and can extend over days or weeks (depending on the nature of the project and the child's abilities, strengths and interests). Imagination, creativity and all kinds of symbolic behaviour (reading, writing, drawing, dancing, music, mathematics, role playing, and talking) develop and emerge when conditions are favourable (Bruce, 1997). According to Ball (1992) children learn most effectively through actions, rather than from instruction and when they are interested. Play and conversation are the main ways by which young children learn.

Children who are encouraged to think for themselves are more likely to act independently (Ball, 1992; Malaguzzi, 1993b; Hohman and Weikart, 1995). Bruce (1997) emphasised that children learn best when

they are given appropriate responsibility, allowed to make errors, decisions and choices, and respected as independent learners. She emphasised the importance of self-discipline (in her view this is the only kind of discipline worth having) and noted that reward systems do not work in the long-term. Malaguzzi (1993b) identified that documentation and displays of children's ideas and work enhance their learning, the adults' learning and the parents' involvement in their children's experiences in fundamental ways. What children can do (rather than what they cannot do) is the starting point of a child's education (Bruce, 1997; Wood, 1998). As exemplified by Ball (1992) children who feel confident in themselves and their own ability have a head start to learning. Finally, relationships with other people, both adults and children, are of central importance to a child's learning and development (Ball 1992; Bruce, 1997).

Effective pedagogy

To conclude this section, considerations from Siraj-Blatchford *et al.* (2002) are offered for the curriculum. These are drawn from case studies of settings that had proved effective in promoting children's learning and development. This research found that effective pedagogy was characterised by:

- a careful mix of adult-initiated group work and freely chosen child-initiated activities
- the quality of shared, sustained dialogue and thinking between both adults and children and children and their peers
- adults' knowledge of child development and curriculum
- support for children to represent their understanding in a range of means
- skilled assessment of children's learning and consequent strategic planning for a wide range of curriculum experiences.

Summary

In this section, curriculum was presented as encompassing the totality of young children's learning experiences. In exploring the features of that curriculum, common principles from the pioneers of early education were combined with more recent educational research. These principles underpin and support the development of a curriculum which will enable and empower each child as a learner both with and alongside peers and adults.

Concluding comments

This research paper *Children's early learning and development* sets out the theory and research underpinning children's early learning and development behind the *Framework for Early Learning*. The paper essentially responds to the question - *how should we envision and understand the child as a young learner?* The paper is a stimulus for dialogue rather than a statement of fact and begins by outlining the context for early childhood care and education in Ireland by referring to our economic and social climate, the increasingly multicultural nature of society and relevant legislation and policy. Drawing on centuries of research, the modern day view of the child is one of him/her being a competent learner, capable of making choices and decisions; a young citizen and participator in many contexts; actively learning in reciprocal relations with adults and other children. This new construction of childhood is oriented towards the child's present rather than his/her future.

Early childhood care and education is no longer dominated by individualistic developmental explanations for learning and development but is enhanced by theories that foreground the cultural and socially constructed nature of learning. This paper uses common principles as lenses to highlight important messages which inform contemporary thinking about how children learn and develop. From this perspective, learning and development are inextricably intertwined and are enmeshed within the milieu of social relationships. The child develops not in isolation but in the context of family, neighbourhood, community, public policies, and society. The image of the child-developing-in-context provides for a more dynamic conception of learning and development and opens the lens through which we observe children. This socio-cultural understanding of learning and development underpins this research paper and highlights the message that children's early learning and development, therefore, is a matter for the whole of society.

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Appendix 1: Influences on early learning and development

Key concepts	Implications for practice
Friedrich Wilhelm Froebel (1782 - 1852)	
<ul style="list-style-type: none"> ■ Children have inborn knowledge and skills and are innately creative beings. ■ The curriculum consists of a carefully sequenced set of manipulative materials known as Gifts complimented equally by a set of handwork projects known as Occupations (modelling and drawing). ■ There is a focus on mathematical and language skills and on the adult-child relationship. 	<ul style="list-style-type: none"> ■ To bring these innate skills to the fore adults must make children consciously aware and able to use all they know. ■ For the first time play is used as a methodology in schools often in adult-directed activities designed to teach concepts and skills through the Gifts and Occupations and formal games, art, music, and outdoor experiences (gardening and care of pets). ■ There is a focus on adult-child dialogue strategies of coaching, prompting, giving suggestions, asking questions, modelling, and deductive (reasoning) lessons with advanced thinkers.
John Dewey (1859 - 1952)	
<ul style="list-style-type: none"> ■ Children are innately social beings; the builders of a new social order – a democratic society. ■ The curriculum, designed to meet real life challenges, integrated subject areas and required coordination of socio-emotional, psychomotor, and cognitive responses from children. ■ Greater focus on learning/education than on development. Learning is a reciprocal and collaborative process between adult and child. 	<ul style="list-style-type: none"> ■ This involved a shift from adult directed to co-operative learning between adult and child. Adult observes, documents, builds on children's interests, and plans a purposeful curriculum and makes sense of the world for children. ■ Activities are provided to promote social problem solving processes such as joint adult-child or child-child efforts at making lunch or lengthy projects e.g. representations of a local park. ■ Children are allowed to investigate and reflect on their experiences through social interactions in a well-planned social and physical environment.
Rudolph Steiner (1861 - 1925)	
<ul style="list-style-type: none"> ■ Children go through stages (Will, Heart and Head). ■ The development of the whole child, particularly spiritual development is significant. Understanding the nature of children supports their individuality. ■ Children who are offered a creative and balanced curriculum will develop into a creative and flexible people. ■ The adult's role is to help children learn to do things to their best ability. ■ The design of the environment concerns warm colours, soft materials and rounded corners and is without plastic toys. Outdoors, the equipment is minimal, but logs and trunks are plentiful to encourage children's use of own imagination. 	<ul style="list-style-type: none"> ■ Children are not given instructional materials and are not introduced to reading or numerical skills. Instead a routine of singing and opportunities for movement through circle games is provided and children are guided, sometimes with a story to play where full expression of their imagination is encouraged. ■ Experiences of the arts and sciences are offered as well as processes of thinking, feeling and willing. Open-ended activities (paintings) are favoured rather than limited options (colouring in sheets). Children play individually and in groups. ■ The adult greets each child individually each morning ■ Wooden blocks and simple natural materials are provided. Sewing materials and a workbench with child-sized but working tools are available. The equipment is versatile; the storage containers can be used in a multitude of ways to stimulate children's imagination.

Key concepts	Implications for practice
Maria Montessori (1870 - 1952)	
<ul style="list-style-type: none"> ■ Learning is a continuum between refinement of the senses and a broadening of intellectual/ emotional/ social functioning. ■ Curriculum and apparatus are sequentially introduced to coincide with ‘sensitive periods’ of a child’s development. ■ Children have ‘absorbent minds’, sensitive to order and hunger for knowledge of their real world. ■ The curriculum fosters learning goals around areas of interest and personal challenge. ■ Sensorial exercises focus on sensorial discrimination. ■ Social and individual responsibility, dignity and respect are encouraged. 	<ul style="list-style-type: none"> ■ A prepared environment facilitates enjoyable challenging activities where children grasp complex ideas through multi-sensory, self-correcting materials. ■ Appropriately trained adults present materials in a sequential manner at the level of the individual child; these are graded from simple to complex. ■ Children are most sensitive and receptive to language acquisition, order, personal independence, and social/cultural skills. ■ Practical Life exercises develop gross and fine motor skills, concentration and responsibility in independently chosen activities. ■ The developed senses lay the foundations for reading and writing, maths, the sciences and so on. ■ Language development occurs through discussion on cultural topics, animals, wild life, and the use of the phonetic method.
Lev Vygotsky (1896 - 1934)	
<ul style="list-style-type: none"> ■ Language and communication (and hence instruction) are at the heart of personal and intellectual development. Both cognitive and social development work together and build on each other, and learning leads development. ■ He developed the concept of the Zone of Proximal Development (ZPD). ■ There is emphasis on the importance of interaction with adults and peers in advancing children’s knowledge. 	<ul style="list-style-type: none"> ■ Children learn as social beings, with the support of others, and there is a consequent requirement for adults to take a more active teaching role. ■ The ZPD is the space between the most difficult things a child can do alone and what s/he can do with help. An adult or capable peer can act as a scaffold to the child. ■ Adults observe children carefully to assess what is within each child’s ZPD and plan curriculum experiences that support children’s holistic development and emerging capabilities. ■ Adults encourage conversations through questioning, humour and discussion.
Jean Piaget (1896 - 1980)	
<ul style="list-style-type: none"> ■ Through play children pass through a series of graduating intellectual developmental stages (sensorimotor, pre-operational) before they construct the ability to reason by giving meaning to place, people and things. ■ Learning is neither intrinsic (coming from the child) nor extrinsic (imposed by the environment) but through the child’s interactions with the environment. ■ From birth, children engage in reciprocal acts of ‘assimilation’ and ‘accommodation’ in order to form, and extend the structures of their minds. ■ Equilibration is fundamental to learning and refers to the child’s continual process of cognitive self-correction, whose goal is a better sense of equilibrium. 	<ul style="list-style-type: none"> ■ The first stage is from Birth–18 months (sensorimotor) when babies learn through their senses and reflexes, and as they act upon objects and manipulate materials. Children need to be kept safe but interested and to be responded to reassuringly to ease separation anxiety. The second stage is from 18 months–six years (pre-operational) when toddlers and young children form ideas based on their perceptions, focus on one thing at a time, and over-generalise. ■ Adults can only influence the course of intellectual development if the child is able to assimilate what is said and done. Assimilation is constrained by the child’s stage of development which leads to the concept of ‘learning readiness’. ■ Children need time for uninterrupted free-play and to be provided with many real world, problem-solving experiences and open-ended activities.

Key concepts	Implications for practice
Erik Erikson (1902 - 1994)	
<ul style="list-style-type: none"> ■ Erikson focussed on the emotional and social development of children and subsequent mental health. ■ The Eight Ages of Man theory covers the entire lifespan and suggests that tasks must be accomplished at each life stage and each stage successfully resolved before moving on. For children from birth to age six there are three stages and consequent strengths developed (Trust versus Mistrust, Autonomy versus Shame and Doubt, Initiative versus Guilt - Purpose). 	<ul style="list-style-type: none"> ■ From birth to one year (Trust vs. Mistrust) babies establish basic trust in her/himself and the world. Attachments with adults are secured through being held and responded to instantly when distressed. ■ From two to three years (Autonomy vs. Shame and Doubt) toddlers establish a sense of independence without shame. They need choice and reassuring limit setting and an acceptance of their emotions by caring adults. ■ From four to five years (Initiative vs. Guilt - Purpose) young children acquire a sense of purpose. They need opportunities to plan and carry out a task independently, a focus on strengths - not mistakes, reasonable expectations and a curriculum focused on real things and action.
Loris Malaguzzi (1910 - 1994)	
<ul style="list-style-type: none"> ■ Reggio Emilia is a small town in the region of Emilia Romagna (Northern Italy) and is home to infant and toddler and early years settings. The Reggio experience has been produced within a very particular political, economic and social context with deep reserves of social capital produced by trust, mutuality and cooperation. ■ The curriculum in Reggio Emilia is not established in advance but emerges totally through the interests of children. The Reggio approach is not just about practice; it is underpinned by a philosophy which continues to grow and develop. ■ Young children are engaged in long term engrossing projects, which are carried out in carefully planned, beautiful environments catering for the idea of schooling for multiple intelligences. 	<ul style="list-style-type: none"> ■ The topics for study are captured from the talk of children, through community or family events, as well as the known interests of children (puddles, shadows, dinosaurs); they are then pursued in depth through projects. The adult sees the child's competence in a variety of forms of symbolic representation as a critical feature of early childhood education. Collaborative group work, both large and small, is considered valuable and necessary to advance cognitive development. A well stocked atelier (art studio) is in place with the integration of the graphic arts as tools for cognitive, linguistic, and social development. ■ In Reggio Emilia documentation of children's words and representations is adopted which include photographs of children working, conversations they had, observations and interpretations by adults. ■ Children have extended periods of time to discuss ideas, develop their cooperative projects, research ways of doing things, try things out, and revisit drawings and comments previously made.
David Weikart (1932 - 2003)	
<ul style="list-style-type: none"> ■ The High/Scope approach was designed in response to the persistent failures of high school children from poor neighbourhoods in Ypsilanti, Michigan (USA). ■ The curriculum emerges from children's interests and the observations of practitioners with a balance of child-initiated and adult-initiated activities and is located within key experiences for the baby and toddler and young child and the school going child. 	<ul style="list-style-type: none"> ■ The 'key experiences' are a series of statements describing the holistic, social, cognitive, and physical development of children. Each statement highlights an active learning experience which supports the fundamental abilities that emerge during childhood. Given the emphasis on children-initiated activities, adults ensure that children have opportunities to engage in essential key experiences in small group times that they would otherwise not choose to do. ■ Active learning involves the child having choice of a range of materials and activities. They are free to manipulate those materials, and encouraged to use their own language and have adult support.

Key concepts	Implications for practice
<ul style="list-style-type: none"> ■ Children are seen as competent, active learners who plan, carry out, and reflect on their activities. ■ The curriculum process for the young child includes a plan-do-review sequence within the daily routine (for the baby and toddler it is called choice time). In addition, adults guide children's learning through greeting time, transitions, meal times, small group time, and large group time. The children assist with cleaning and have daily outside time. ■ The High/Scope environment is carefully planned and is divided into distinctive work areas. 	<ul style="list-style-type: none"> ■ The plan-do-review sequence involves: <ul style="list-style-type: none"> ■ Planning: children are free to choose which activities to do. This requires expressing their intentions; this also means the activity is always appropriate to the context of early development. ■ Doing: children carry out their plan (which often changes), generating experiences. ■ Reviewing: children reflect on their experiences with their peers and adults. ■ The environment includes a book, a home, a construction, and an art area as the four base areas. Other areas are added depending on the children's interests e.g. computer, woodwork, gardening, office, shop. Materials are labelled and stored so that children can find, use and return materials they need. Children's work is carefully displayed.
Jerome Bruner (1915 -)	
<ul style="list-style-type: none"> ■ Bruner views children as active problem-solvers who are ready to explore 'difficult' subjects and who are learning from birth. ■ Information is obtained through personal discovery and is classified enactively, iconically or symbolically. ■ Within the education system, a teacher would then engage students in active dialogue and guide them when necessary so that students would progressively build their own knowledge base, rather than be 'taught'. Learning is an active process in which new information would be classified and understood by the learner based on knowledge already gained. This notion underpins the idea of the spiral curriculum. Bruner suggested that people remember things because of their significance and meaning not because they want to preserve the facts themselves. ■ Interest in the material to be learned is the best stimulus to learning, rather than such external goals as grades or later competitive advantage. ■ Bruner believes that how one conceives education, is a function of how one conceives culture and its aims. Culture provides us with the toolkit by which we construct not only our worlds but our very conception of ourselves and our powers. 	<ul style="list-style-type: none"> ■ Any subject can be taught effectively in some intellectually honest form to any child at any stage of development. ■ In their very early years, young children rely extensively upon enactive modes to learn. As a child learns to roll over, sit up or walk, they are learning to do so through their own actions. In iconic representation, children learn to understand what pictures and diagrams are and how to do arithmetic using numbers and without counting objects. This normally becomes dominant during the next stage of childhood years. Later (usually around adolescence) the symbolic mode of learning becomes most dominant. An adult wanting to help children learn about dinosaurs could use all three modes. Students could be asked to construct models of dinosaurs (enactive); they might watch a film about, or involving, dinosaurs (iconic); or they could consult reference texts and discuss their findings (symbolic). ■ How children construct knowledge involves three basic principles of instruction: <ul style="list-style-type: none"> → 1. Instruction is concerned with the experiences and contexts that make the student willing and able to learn (predispositions to learning). → 2. Instruction is structured so that it can be easily grasped by the student. Attention is paid to the most effective sequences in which to present material. A curriculum as it develops should spiral and revisit basic ideas repeatedly, building upon them until the student has grasped the full formal structure that goes with them (spiral organisation). → 3. Instruction should be designed to facilitate extrapolation and or fill in the gaps (going beyond the information given). Information can be simplified and new hypotheses generated increasing intellectual manipulation of material.



	<ul style="list-style-type: none"> ■ Children should be provided with study materials, activities, and tools that they are interested in and are matched to and capitalise on their developing cognitive capabilities. The adult translates information to be learned into a format appropriate to the learner's current state of understanding and arouses interest in what there is to be learned. ■ Culture shapes the mind - mental activity is neither solo nor conducted unassisted. Awareness of children's (and adults') culture is critical to learning and needs to be incorporated in activities and tools.
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Contemporary theorists such as Rogoff, Egan, Dahlberg, Prout, James, Traverthen, Lave among others

<ul style="list-style-type: none"> ■ Socio-cultural theory views learning as a work in progress, in context, and as a social activity. ■ Agency, voice, complex identities, and social justice are critical. ■ There are different ways of being a child and different childhoods. Childhood is not universal. It is understood as a social construction; a product of cultures and as such will vary across time and place. It is only possible to understand the culture of a group by exploring their everyday practice and relationships in detail (deconstructing what they do and why). ■ The adult-child relationship and child-child relationships are key learning contexts. Learning is a reciprocal process and emerges through joint mediated activities among participants. ■ Language, communication, culture, and learning emphasise the central role of narrative and its manifestations in conversation, story-making and play. There is an emphasis on the meanings which govern how people live and behave. What people think, feel and their reported motivations are relevant to understanding their behaviour. ■ The concept that learning and development are biologically determined is challenged. 	<ul style="list-style-type: none"> ■ Children's development and learning is continuous, takes place in close co-operation with other children and adults and in many different contexts (home, early years settings, neighbourhoods, community). Children learn through communication with others while engaging in goal-oriented activities. ■ The child is seen as a competent learner, capable of making choices and decisions; from diverse backgrounds, and is deserving of respect. ■ Adults need to embrace children's cultures. Children's relationships and cultures are worthy of study in their own right. ■ Adults need a deep understanding of children's learning and development; create learning that is integrated, personally relevant and meaningful; adopt multiple teaching strategies for individual learning styles; observe and document; reflect and strive to form positive relationships. ■ Early childhood settings are places of dialogue, participation and education in a process which involves the children, their parents, staff, community, and society. Play is a vehicle for social interaction and is fundamentally important for children. Children's minds can be uniquely engaged with stories, told orally and through texts; talking with children and discussing actions and events provides the words to build images. ■ Learning and development occurs when children are regularly engaged in meaningful experiences over time with adults and other children. In order for children to produce new learning or ways of viewing the world, children's interest and attention are required; encouragement and feedback given; the key points of a task explained so children know what's needed; and a demonstration offered from adult or peer of how it might be done.
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