Aistear

Creatchuraclam na Luath-Óige
The Early Childhood Curriculum Framework

Supporting early learning and development through formative assessment

A research paper

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Commissioned by the National Council for Curriculum and Assessment, NCCA

Contents

Glossary

Agency: Children are active in their own learning. Some ways in which they display their agency is by taking the initiative in learning situations, by observing and becoming involved in ongoing events, or by initiating conversations with others.

Authentic assessment: Assessing children on tasks that are part of their ordinary everyday experiences in their early education and care settings.

Co-construction: This occurs when children and/or practitioners construct meaning and knowledge about the world together in interaction.

Collaborative learning: This is learning that takes place in social contexts and using the resources of the environment.

Formative assessment: This is assessment that informs teaching and learning. It is concerned with the short-term collection and use of evidence for the guidance of learning.

Intersubjectivity: This is the mutual understanding achieved by people in communication.

Meta-cognition: This refers to what children think about their own learning, thinking and remembering and how the act of thinking about these processes affect the ways in which children then go about intentionally learning, thinking and remembering. It is a process whereby children become aware of their own thought processes.

Pedagogy of mutuality: This perspective recognises that both child and adult bring beliefs and ideas to the learning situation and that discussion and interaction are the means by which a shared frame of reference is established. This results in an exchange of understandings between the child and the practitioner.

Pedagogical content knowledge: This is a form of professional understanding which brings together content knowledge and knowledge about pedagogy. It is based on an understanding of how best to organise and present ideas and adapt them in response to the diverse interests and abilities of children.

Performance assessment: Assessing children's early learning and development through observing, recording, and evaluating children's performance or work.

Scaffolding: This refers to the practice of providing guidance and support to children as they move from one level of competence to another. It is a metaphor that is used to describe interactional support for children's efforts. The assistance offered to the child is sensitive to and contingent on the amount of support needed.

Schema: These are patterns of early repeatable behaviours which children engage in and which lead them through a process of co-ordination, to make generalisations.

Socio-cultural theories: These are a family of theories that have arisen from the work of Vygotsky and which have in common their emphasis on the role that social and cultural factors play in children's development and learning.

Theory of mind: Children gradually acquire the understanding that other people can hold beliefs about the world that differ from what the child him/herself believes or appears to be true.

Transformation of participation: From a socio-cultural perspective, children are seen as developing through a process of participating in activities of their communities, and in doing so their participation changes. They become progressively more expert through engagement in cultural practice and through social interactions that guide them in taking on new roles and responsibilities.

Introduction

This research paper, *Supporting early learning and development through formative assessment* responds to the questions – *What's the purpose of formative assessment in early childhood? What should we assess? How should we assess?* The paper is one of four research papers commissioned by the NCCA to set out the theory trail behind the *Framework for Early Learning*[1]. This paper is being used to develop guidelines on assessment for inclusion in the *Framework.* While there are a number of different types and functions of assessment this paper focuses on formative assessment as this offers most potential in terms of assessing to support learning in the day-to-day interactions between adults and children in early childhood.

Section 1 of the paper, General background explores the meaning of assessment and its relationship with teaching and learning. Though still very much an emerging area, what we know about how to support early learning and development through the formative assessment process has advanced somewhat in recent years. In many ways the advances in assessment practices in early childhood education and care mirror those in the field of assessment generally. In particular, the articulation of the interrelatedness between teaching, learning and assessment and the complexity of the relationships between these processes and curriculum is of as much importance to those concerned with early learning and development, as it is to those concerned with later stages of development.

The term assessment, as applied in early childhood education and care, generally implies the intention to provide a rich picture of the ways in which children act, think and learn. In order to orient the discussion about assessment in early childhood education and care, the initial section of the paper outlines the general context in relation to the assessment of early learning and development. While a number of different reasons for assessing early learning and development can be identified, this paper focuses on using formative assessment to support teaching and learning.

Section 2, *The nature of early learning* begins from the premise that in assessing early learning and development it is critical to acknowledge and take account of the nature of early learning and development. We know that in early childhood learning and development is rapid, episodic and holistic. It is also highly influenced by the extent of support that is available for that learning. The adults around the child, and the extent to which they can and do support early learning and development, are crucial elements in determining the extent of learning. Because of their stage of development, children's abilities in some areas are not yet mature. Their verbal abilities are still emerging, and so assessment of learning and development is often through observation of, and inference from, the children's actions and reactions in particular situations. It is also essential to acknowledge and take account of the fact that there are considerable cultural variations in children's experiences. These will result in differences in the course and content of early learning and development. They may also result in considerable differences in how children learn and in how they display their learning.

It is important to focus on the breadth of children's early learning and development. Section 3, *What to assess in early learning* focuses on assessing children's dispositions, well-being, cognitive abilities and self-concept and sociability.

Assessment in early childhood is shaped by how children from birth to six years learn and develop. A narrative approach offers great potential for making assessment of early learning visible. Documentation of evidence of early learning and development in various ways, using a variety of media and tools, is important for both reflecting on and communicating about children's achievements. There appears to be general agreement that assessment of early learning and development should be informal, carried out over time, and in the context of the child's interactions with materials, objects and other people. It should also be authentic in the sense that it should take place in real-life contexts where it is embedded in tasks that children see as significant, meaningful and worthwhile. Informal assessments, carried out as children engage in experiences they see as relevant and meaningful, are likely to produce the best assessments of early learning and development. These issues are considered in Section 4, *How to assess early learning.*

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

Section 5, *Assessment and the practitioner* discusses the need for professional development for early childhood practitioners. Good assessment practice requires understanding about how children learn and develop, the process of assessment, and skills to manageably assess in ways that respect children and that are ethically sound.

The concluding comments clarify and summarise the key messages across the paper. Key points arising from the discussion are presented in shaded boxes throughout the paper. Some of these points relate to key messages arising from theory and research while others are aspirational.

Section 1: General background

This section of the paper explores what is meant by assessment in early childhood and discusses its relationship with teaching and learning. Informed by this, a definition of formative assessment is presented. The section concludes by describing the current practice and legislative context in which assessment takes place in Ireland.

Purpose of the paper

The purpose of this paper is to review issues related to formative assessment of early learning. The findings of the paper will be used to support the development of the assessment guidelines in the *Framework for Early Learning*[2]. The paper responds to questions related to the *what, why* and *how* of formative assessment in early childhood.

Assessment and curriculum

Ways of assessing children's learning and development cannot be separated from features of the curriculum (for example, the degree of formality or informality that characterises it), and from views of learners and learning which are embodied in that curriculum. Kelly (1992) identifies the interrelating of curriculum and assessment as … *a highly complex and sophisticated matter* (p. 16). He argues that the interplay of one with the other is crucial in determining the effectiveness of either. The NCCA is developing a curriculum framework for children between the ages of birth and six years. The Framework embraces a particular view of the child, of learning and of how that learning may be celebrated and extended. In the *Framework for Early Learning*, learning is presented in four broad and complementary themes:

- Well-being
- Identity and Belonging
- Communicating
- Exploring and Thinking.

Some of the principles related to how children develop and learn which underpin the Framework include the following:

- holistic learning and development
- active learning
- play and first-hand experiences
- relevant and meaningful experiences
- communication and language
- a well-planned and well-resourced outdoor and indoor learning environment.

It will be important to identify an approach to assessment that will help practitioners identify and support children's learning as it relates to the Framework's principles and themes. Assessment and teaching are now generally considered to be as much inseparable processes in early childhood as they are in any other period of life (Shepard, Kagan and Wurtz, 1998; Bowman *et al.*, 2001). We now know that children learn by building new understandings on those that they already have (Wood, 1998). In order to support children's learning then, practitioners first collect information about children's well-being, identity and belonging, communication, and exploration and thinking. What children engage with, think, know, feel or can do are all of importance in the assessment process. Reflection on this information helps the practitioner to establish

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

how best to advance children's learning and development. Once this is established the practitioner is then in a position to plan worthwhile, interesting and challenging learning experiences to further progress learning. Clearly then, assessment in early childhood is not something that can be considered independent of either curriculum or learning.

It is critical that the assessment of early learning recognises the unique nature of development in early childhood. It is also critical that we learn from the experiences of countries with a longer history of appraising assessment practices and processes than we have here in Ireland. Working in the context of the United States, where there has been considerable interest in finding appropriate assessment formats for use by early childhood practitioners, Shepard *et al.* (1998, pp. 8-9) devised a set of principles to guide practice and policy for the assessment of children's learning. These represented a synthesis of understandings in respect of the most appropriate approaches to assessment in early childhood and the authors advised that they should apply to any situation in which assessments are used to make decisions about children's learning:

- Assessments should bring about benefits for children.

- Assessments should be tailored to a specific purpose and should be reliable, valid and fair for that purpose.

- Assessment policies should be designed recognising that reliability and validity of assessments increases with children's age.

- Assessments should be age-appropriate in both content and the method of data collection.

- Assessments should be linguistically appropriate, recognising that to some extent all assessments are measures of language.

- Parents should be a valued source of assessment information, as well as an audience for assessment results.

The Irish context

The practice context

Assessment in the early years of a child's life can be viewed from a number of perspectives. David (2003) identifies three perspectives

- the day-to-day informal assessments made by the adults with whom the child comes in contact. In most cases these are early years practitioners who may or may not document such assessments.

- the physical assessments by paediatricians, public health nurses and family doctors. These aim to identify any physical problems that may impede children's progression and seek to alleviate them as much as possible.

- diagnostic assessments that can have a range of functions, including identifying children with special educational needs, and helping practitioners to support their learning more effectively.

No single type of assessment can serve all of the purposes identified in the perspectives outlined above. Each perspective has a role to play, especially in the case of children with special needs where diagnostic assessments are of paramount importance. Babies, toddlers and young children may experience various types of assessments in early childhood. Some may occur frequently, others occasionally. Multi-agency and multi-disciplinary communication is a critical means by which information related to the child's development and learning can be shared for the benefit of the child. It is imperative that practitioners in early childhood settings have access to any information that is of use in making sure learning opportunities in the setting are appropriate for each individual child. The practice of practitioners building on assessments carried out by other professionals such as therapists can be facilitated by significant levels of inter- and/or multi-disciplinary teamwork.

Where children spend some or all of their day in out-of-home settings the practitioners with whom they are in contact engage in ongoing assessment for supporting learning and development. Traditionally, observation is the primary method used in assessing children's learning and development in the range of early education settings in Ireland. For instance, close observations of children's play in a range of childcare services in Ireland provide the basis for learning and teaching stories (Brennan, 2004). Many practitioners use checklists to record aspects of their observations. These are often used to record observations in relation to the assessment of children's skills and understandings, particularly in the area of identifying children with special educational needs and in supporting their learning and development. In relation to their use of assessment practices to support children's learning in curriculum areas, only about half of infant teachers who participated in Phase 1 of the Primary Curriculum Review (NCCA, 2005) reported that they used observation and about three-quarters reported using documentation. Infant teachers in primary schools also use a range of developmental and diagnostic assessments, for example, in the area of early literacy, to assess specific aspects of children's development and learning. (See Section 4 for a more extensive discussion on observation as an assessment method.)

Increasingly there is an awareness that children live different childhoods: their social, cultural, linguistic and ecological experiences and opportunities differ and all of this influences assessment. Practitioners who are in daily contact with children are in a good position to familiarise themselves with these diverse aspects of children's lives and of their possibilities for early learning and development. Consequently, on a day-to-day basis, the practitioner's own assessments are the ones that have the most potential in terms of planning for children's learning and of making judgements regarding children's progress. Using assessment for this purpose is the central focus of this paper.

> **Key point**
> A range of assessments are appropriate in assessing children's learning. The focus of the assessment depends on its purpose. The central focus of this paper is on formative assessment where practitioners' own assessments are used to support and plan for children's learning.

The legislative context

There is a long history of informal assessment of children's learning in Ireland. However, for various reasons early childhood practitioners now find it necessary to document learning in ways that were not general practice previously. Both legislative requirements and practitioners' own desires to better understand early learning and how best to extend it, are to the fore in encouraging the documentation of information related to children's early learning and development.

In relation to young children attending primary schools, **The Education Act** (Department of Education and Science, 1998) requires principals and teachers ***to regularly evaluate students and periodically report the results of the evaluation to the students and their parents.*** The implications of this requirement for teachers and schools include

- *developing assessment **procedures** which provide an accurate account of children's progress and achievement*

- *creating and maintaining **records** of children's progress and achievement while they are attending the school*

- *providing parents with assessment **reports** which contain accurate and clearly accessible information about their children's progress and achievement*

(NCCA, 2007a, p. 95).

The Equal Status Act (The Equality Authority, 2000) has implications for the assessment policy in early education settings. In particular, it requires settings to be aware of the **effects of context, culture and language** in assessing children's learning and development.

The Education for Persons with Special Educational Needs Act (EPSEN) (Department of Health and Children, 2004) requires that where **a child has or may have special educational needs an assessment of those needs should be carried out.** With children not attending formal schooling this is the responsibility of the relevant health board. Where the child is a student then the Act requires schools to identify when a child is not benefiting from the education programme on offer and to investigate the reasons behind this. The school, or in the case of a child not at school the relevant health board, is mandated to ensure that an **individual education plan** (IEP) for an appropriate education for the child is drawn up in consultation with the child's parents. The Act outlines the **statutory requirements for educational planning** for children with special educational needs (SEN). It requires that a multi-disciplinary assessment be carried out in situations where it is considered that the child may have special educational needs. An IEP must then be prepared for each child identified as having such needs. Discussion and agreement regarding the abilities, skills and talents as well as the nature and degree of the child's special educational needs, together with an analysis of how these needs affect the child's learning and development is required. The plan must include these and must also specify goals for learning and development for the child over a period not exceeding one year. It must also specify the supports that need to be put in place to enable the child to participate in and benefit from education.

The Disability Act (Department of Health and Children, 2005) **enables provision for the assessment of health and education needs for persons with disabilities, arising from their situation.** The Act provides for access for people with disabilities to health and education services. In relation to educational needs, Part 2 Section 8 (9) states that where an assessment is applied for it must be carried out by or at the request of an assessment officer who then

> …identifies the need for the provision of an educational service to the child, he or she shall, in case the child is enrolled in a school, refer the matter to the principal of that school…in any other case, refer the matter to the council for the purposes of an assessment.

The Child Care (Pre-School Services) (No 2) Regulations (Department of Health and Children, 2006) set out the **regulations and requirements pertaining to all aspects of the operation of pre-school settings.** Regulation 5 explicitly requires that:

> A person carrying on a pre-school service shall ensure that each child's learning, development and well-being is facilitated within the daily life of the service through the provision of the appropriate opportunities, experiences, activities, interaction, materials and equipment, having regard to the age and state of development of the child and the child's cultural context.

To fulfil this requirement it is necessary for practitioners to engage in making important judgements about children's learning and development and how best to extend and enrich it. By implication this involves the practitioner in assessing learning and development. Indeed, the explanatory guide directs practitioners to *be pro-active in ensuring that appropriate action is taken to address each child's individual needs with his/her parents and following consultation, where appropriate, with other relevant services* (p. 39).

While there are other pieces of legislation which impact on aspects of assessment such as the transfer of assessment information between settings, the focus of this paper is on the actual process of using assessment to support early learning and development. How best to comply with the above demands in ways that are respectful to children; capture the complexity of early learning; and are helpful in planning future learning experiences has now become a key issue for consideration for early childhood practitioners.

> **Key point**
> Assessment takes place within a particular legislative framework in Ireland.

Ethical Issues

The nature of the power relations between babies, toddlers and young children and the practitioners with whom they come into contact needs to be acknowledged in the assessment situation. The power of the adult and the relative dependency of children make it imperative that ethical issues are given serious consideration by practitioners. Some of these issues are discussed later in Section 5.

Towards a definition of formative assessment

Bowman, Donovan and Burns (2001) suggest that the term assessment, as applied in early childhood education and care, generally implies the intention to provide a rich picture of the ways in which children act, think and learn. Such a picture focuses on the individual's learning, is built up over time and provides evidence of learning in a number of different contexts. In relation to its importance, they argue that:

> *Assessment has an important role to play in revealing a child's prior knowledge, development of concepts and ways of interacting with and understanding the world so that teachers can choose a pedagogical approach and curricular materials that will support the child's further learning and development.* (p. 259)

Pelligrini (1998) describes assessment in early childhood as being about the collection of information about children. This is generally understood to encompass a number of other processes besides collecting. For example, Lally and Hurst (1992) describe how assessment also involves practitioners in documenting, analysing and reflecting on the information collected, and using this to plan and support further learning.

This definition is very similar to that used in *Assessment in the Primary School Curriculum: Guidelines for Schools* (NCCA, 2007a). While similar methods may be useful in both early childhood settings and in primary school settings, in early childhood assessment particular account needs to be taken of the characteristics of babies, toddlers and young children and to the unique ways in which these children learn. Early childhood assessment focuses specifically on finding out what children are interested in, understand, think, feel, and are able to do. It seeks to document this information in order to understand children's thinking and learning styles, to chart children's progress and to support further learning. It is developmental in that it focuses on processes rather than on content or product.

> **Key point**
> Assessment of early learning provides a rich picture of children's learning by collecting and documenting information. Through reflecting on and using this information, children's future learning is supported and enhanced.

Supporting learning and development

Assessment in early childhood has been identified as having a number of functions - ipsative, diagnostic, summative, evaluative and informative (Wood and Attfield, 2005). Assessment in early childhood has enormous potential to support learning and development. A recent large-scale longitudinal study of early learning settings in England confirmed the importance of assessment in meeting children's needs and in supporting their cognitive progress (Siraj-Blatchford, Sylva, Muttock, Gilden and Bell, 2002). The ultimate purpose of assessment in early childhood is to make learning more interesting, enjoyable and successful for children. Drummond (1993) suggests that assessment must work for children:

> *We can use our assessments to shape and enrich our curriculum, our interactions, our provision as a whole: we can use our assessments as a way of identifying what children will be able to learn next, so that we can support and extend that learning. Assessment is part of our daily practice in striving for quality. (p. 13)*

> **Key point**
> Assessment in early childhood promotes the extension and enrichment of children's early learning and development.

The following section looks at the nature of early learning and the implications for assessing early learning.

Section 2: The nature of early learning

This section of the paper discusses the characteristics of early learning and identifies some key theoretical constructs that guide the teaching, learning and assessment processes during early childhood. Theoretical considerations have been influential in shaping new and emerging approaches to assessment and the most salient of these are discussed in relation to their implications for the assessment of early learning and development.

Characteristics of early learning

During the early childhood period children's learning across the various dimensions of development (for example, physical, motor, linguistic, emotional) is greater than at any other period, but is also highly variable across the dimensions. It also occurs very rapidly, is episodic in nature and is very susceptible to environmental conditions (Shepard *et al.*, 1998). These factors contribute to making the assessment of early learning and development very challenging.

The complexity of early learning

We have a great deal of evidence that early learning and development is both extensive and complex (e.g. Drummond, 1993; Bowman *et al.*, 2001; Carr, 2002). The research paper, *Children's early learning and development* (French, 2007) provides information on many facets of early learning and development. Early childhood educators have consistently sought to convey the extent of this complexity and over the years they have provided evidence of exactly how much learning children can demonstrate, provided that it is approached in appropriate ways. For instance, Donaldson (1983) clearly demonstrates how children display different levels of proficiency/learning in different contexts. In her seminal work, Children's Minds, she reviewed research that illustrated the dramatic effect of the inclusion or omission of a single adjective in questioning children on so-called 'logical' tasks. She argues (p. 59) that the young child *… first makes sense of situations (and perhaps especially those involving human intentions) and then uses this kind of understanding to help him make sense of what is said to him.* Looking not at what children say but at what they do, the work of Athey (1990) and that of Nutbrown (1999) clearly demonstrates how, as children pursue certain schema for considerable periods of time, these can be identified and supported by practitioners. Early learning is seen, for instance in Athey's work, to have its own recognisable and valid characteristics. Nutbrown (1999) draws out the implication of that work for the assessment of children's pathways and patterns of development and interest. This work along with that of Drummond (1993) exemplifies vividly how much of children's learning there is to see if practitioners are open to seeing it by looking beyond what children can tell us and instead observing what they actually can do. Play provides an important vehicle and context for this work.

> **Key point**
> During the early childhood period, children's learning is highly complex and is made visible through assessing carefully and thoughtfully.

Key theoretical constructs for assessment

Dahlberg, Moss and Pence (1999) observe that in recent years, especially in Western Europe, there has been a process of rethinking childhood that has led to new constructions of the child. They locate this process in a number of interrelated developments with respect to learning theories; philosophy; psychology; sociology; and a concurrent questioning of previous understandings in these fields. From this post-modern perspective, the young child is seen, from the start of life, as a construction of his or her own world. This is very similar to the perspective adopted by Malaguzzi (1993), the founder of the world-renowned Reggio Emilia pre-schools in Italy. Dahlberg *et al.* (1999) describe how in Reggio Emilia pre-schools, the young child is understood as a unique, complex individual who is rich in the sense that he or she is equipped from the start to engage fully and actively in their world. A wider discussion of these perspectives follows.

Ecological perspectives

Ecological and socio-cultural theories of learning have largely dominated explanations of development and learning in early childhood in recent years. For instance, ecological (Bronfenbrenner 1979) and bio-ecological (Bronfenbrenner and Morris, 1998) models of human development have been influential in efforts to understand learning and development and associated processes such as assessment. These models emphasise the role in human development of both the environment and of processes. The research paper, *Perspectives on the relationship between education and care* (Hayes, 2007) in turn highlights both the importance of care and education in facilitating children's overall development. From this perspective, human development is seen as taking place as a result of *progressively more complex reciprocal interactions* (p. 996) between the young child and the people, objects and symbols in the environment. *To be effective the interactions must occur on a fairly regular basis over extended periods of time* (p. 996). These enduring forms of interaction (proximal processes) are seen as key to learning and development and we must study these interactions over time and alongside the observation of behaviour in natural settings. From an ecological-theory perspective, Bronfenbrenner (1979) describes how the learner can participate in increasingly more complex learning situations and in doing so take increasingly greater responsibility in the learning situation. The perspective also emphasises the agency or active nature of children in their interactions with adults, objects and symbols. The model can be used to draw attention to the interpersonal and situational aspects of assessment, for example: the importance of the personal characteristics of the child and the adult in the assessment context, the importance of reciprocal interactions between child and adult and the importance of assessing children's level of engagement with the objects and symbols provided in the immediate environment. Thus the ecological approach emphasises assessment of children engaged in real tasks in natural settings. This perspective sits very well with the socio-cultural perspective that we look at next.

Socio-cultural perspectives

In the past two decades socio-cultural perspectives, that is perspectives that highlight the social and cultural nature of learning, are increasingly used to explain the ways that learning and development occur in early childhood (Anning, Cullen and Fleer, 2004). Socio-cultural theories of learning suggest that the process of learning is as much a social construction as it is an individual one. Rogoff (1998, p. 691) describes development as *transformation of participation*. Transformation occurs at a number of levels: for instance, the learner changes at the level of their involvement, in the role they play in the learning situation, in the ability they demonstrate in moving flexibly from one learning context to another, and in the amount of responsibility taken in the situation. Activity theory also concentrates on the social aspects of learning.

Activity theory

Activity theory, which is a development of aspects of Vygotsky's work (See for example, Engerstrom *et al.*, 1999), is also being highlighted as a theoretical framework that may be useful in explaining the complexity of learning–related issues in early childhood. Fleer, Anning and Cullen (2004) explain how activity theory, in common with Rogoff's discussion of socio-cultural theory, focuses on the study of the complexity of human behaviour in social groups and in specific contexts. The theory is premised on the notion that *the contextual features of a task contribute to … performance on that task* (p. 178). Furthermore, children use tools such as language, a particular action or resource to mediate knowledge in interactions with others. But the cultural features of the context in which they use these tools influences the way activities are performed and understood.

> **Key point**
> If socio-cultural theory informs our understanding of how children learn, it also by implication informs our understanding of assessment.

What all of these perspectives hold in common is their emphasis on the socially constructed nature of learning and of assessment. There are a number of other important constructs that also unite them to greater or lesser degrees. These include children's agency, the importance of collaboration, and the co-construction of meaning and knowledge. These constructs are particularly helpful when thinking about the quality of the interactions between practitioners and young learners. Quality interactions are increasingly recognised as central to pedagogy (Black and Wiliam 1998a; Siraj-Blatchford *et al.*, 2002). The next sub-section discusses these ideas in some detail, and in doing so, draws out the implications for assessment practices in early childhood.

Children's agency

Bruner (1999a) argues that advances in the study of human development provide us with a profile of the child as an active, intentional being; with knowledge as 'man-made' rather than simply there; with ways to negotiate with others in the construction of knowledge. (See French (2007) for more detailed information.) A crucial aspect of identity and self-esteem is that the child sees him/her self as an agent in control of his/her own actions. Some ways in which children display their agency is by taking the initiative in learning situations, by observing and becoming involved in ongoing events, or by initiating conversations with others. Agency is about taking more control of your own mental activity (Bruner, 1996, p. 87). Bruner argues that the agentive mind is not only active in nature but it seeks out dialogue and discourse with other active minds (p. 93). Bruner (1999a) identifies efforts to recognise children's perspectives in the processes of learning as highly significant and he uses the term pedagogy of mutuality (p. 13) to describe the pedagogy that arises from such endeavours. It is premised on the belief that children are able to reason; to make sense (both alone and in discourse with others); to reflect and to hold theories about self and about the world. The practitioner, according to Bruner (p. 12) is concerned with understanding what the child thinks and how he/she arrives at what he/she believes. He identifies four key research constructs which have enriched this perspective on teaching and learning (and by implication assessment):

■ Intersubjectivity - how the child develops the ability to read other minds

■ Theory of mind - the child's grasp of another's intentional state

■ Meta-cognition - what the child thinks about learning, remembering thinking

■ Collaborative learning - how children, through talk and discussion, explain and revise their thinking.

These theoretical ideas are important also in the analysis of assessment as it relates to early learning and development. Children's collaboration in learning is also important and this is considered below.

> **Key point**
> The active role which children themselves play in their interactions with others needs to be recognised and taken into account in any assessment of learning.

Children's collaboration in learning

Zone of proximal development

Vygotsky's theory of learning (1978; 1986) has been highly influential in helping to explain the processes of learning in early childhood. In particular, his notion of the *zone of proximal development* has provided the foundation and potential for some of the most important recent initiatives in the assessment of individual children's learning (Lunt, 2000). Berk and Winsler (1995) describe Vygotsky's zone of proximal development (ZPD) as

> *a dynamic zone of sensitivity in which learning and cognitive development occur. Tasks that children cannot do individually but they can do with help from others invoke mental functioning that are currently in the process of developing, rather than those that have already matured* (p. 26).

It appears that Vygotsky originally introduced the ZPD in the context of arguing against intelligence testing which he felt was seeking to assess something static and did not reflect the dynamic and ever-changing

nature of human cognition. Adult-child collaboration within the ZPD is critical for effective teaching and learning interactions because it is within such interactions that the practitioner identifies how the child may be assisted in learning and what the child is capable of doing with appropriate support. The practitioner also has the opportunity to assess the impact of such support on the child's progress. This approach to assessment effectively merges the teaching and assessment processes. It is commonly referred to as dynamic assessment. When Feuerstein (1979) first proposed this form of assessment he was envisioning, in essence, a joint problem-solving situation during which the practitioner gauges the nature and extent of assistance required by the child in order to solve the problem. Children's responsiveness to appropriate instructional interactions is a key factor in dynamic assessment situations and it is now considered to be an important predictor of learning potential (Berk and Winsler, 1995). Lidz (1991) emphasises that:

> *The focus of dynamic assessment is on the assessor's ability to discover the means of facilitating the learning of the child, not on the child's demonstration of ability to the assessor* (as cited in Berk and Winsler, 1995, p. 139).

 Dynamic assessment is considered by Berk and Winsler (ibid.) as especially useful for making visible the learning potential of those children whose early experiences do not include experiences that prepare them for learning in group/institutional settings. (For a comprehensive discussion of dynamic assessment and emerging approaches to such assessment, see Lunt, 2000). The concept of scaffolding is often associated with ZPD and it is this which we turn our attention to next.

Key point
Practitioner's interactions with children often incorporate both teaching and assessment. It is critical that the practitioner is capable of engaging certain interactive skills in such situations since these will be necessary to ensure optimal learning and development.

Scaffolding

Effective *scaffolding* (Wood, Bruner and Ross, 1976), where the adult guides the child's learning in the ZPD, is an important feature of the engagement of the child in joint problem solving. Here, the child interacts with the practitioner while the two are jointly trying to reach a goal and this results in the establishment of *intersubjectivity* (Newson and Newson, 1975). Intersubjectivity refers to the process whereby two participants achieve a shared understanding whilst undertaking a task that they approach from different perspectives. The parties co-construct meanings in activities that involve higher–order thinking (Vygotsky, 1978).

Rogoff (1998) emphasises the ongoing mutual process of understanding, which is inherent in joint problem-solving interactions. She also draws attention to the institutional and cultural aspects of joint problem-solving activities. She distinguishes between her socio-cultural approach to studying experts' support of novices' learning and other approaches which focus on particular techniques such as scaffolding. Rogoff distinguishes between the concepts of 'scaffolding' and of working in the zone of proximal development. She describes scaffolding as a specific technique focusing on what experts provide for novices; *it focuses on the tutor's efforts as they relate contingently to the novice's successes and failures* (p. 699). However, working in the zone of proximal development is, in her view, wider than scaffolding. It focuses on the processes of communication that builds a continually evolving mutual perspective. It is a way of describing an activity in which someone with greater expertise assists someone else … *to participate in socio-cultural activities in a way that exceeds what they could do otherwise* (p. 699). Mutual contribution is an essential consideration so interactions and communicative and collaborative processes all form part of the picture, rather than just the child's successes or errors as in scaffolding. Rogoff argues that

> *The concept of scaffolding does not refer to the institutional and cultural context in which it occurs, whereas the concept of zone of proximal development requires attention to processes of communication and the relation of the interaction at hand to institutional, cultural and historic processes.* (p. 700)

> **Key point**
> Supporting children's learning is an important part of assessment. For the practitioner this is often far more complex than simply applying a technique such as scaffolding. Learners make an equally important contribution.

Intersubjectivity and collaboration are important in scaffolding children's learning and we look at these two concepts below.

Intersubjectivity and collaboration

Rogoff (1990; 1998) has illustrated how children make an important contribution in collaborating in the process of establishing joint understanding. Children, including infants in the first year of life, can sometimes be observed to be deliberately taking the lead in collaborative activities by seeking information or by directing activities. Rogoff's analysis, consistent with Vygotsky, suggests that the intersubjectivity as achieved by adults and babies is different from that achieved by adults and children who can use linguistic (verbal and gestural) communication to achieve mutual understandings. This then has implications for the assessment process across the age range birth to six years.

Working in the zone of proximal development with a toddler will include the adult engaging in the demonstration of objects, collaborative activity with objects and the focusing of the child's attention. Rogoff (1998) points out that the child, for example in seeking to help the adult in everyday chores, very often initiates such activity. Older toddlers and young children will often seek to assert their independence in doing a particular task themselves but Rogoff's analysis of the research suggests that they also will actively seek assistance when they are stuck. Recently a question has arisen about the capacity of early years settings to support the kinds of relationships and shared experiences that enable children to engage in the types of social participation that promote optimum learning (Parker-Rees, 2007). The research indicates that the nature and scope of babies, toddlers and children's interactions with parents, the playful quality of these interactions and the extent to which relationships can influence reciprocal imitative behaviour (an important process of learning especially in the first year) must all be fully appreciated by practitioners and be seen as desirable conditions for learning in the setting.

> **Key point**
> The concept of collaboration is key when considering assessment from a socio-cultural perspective. In collaborating, the child and the practitioner are involved in each other's thinking processes through shared efforts. In order to assess certain aspects of learning by babies, toddlers and young children, it is essential for adults to collaborate with the children in order to understand their learning.

The co-construction of knowledge is supported by intersubjectivity and collaboration and it is to this that we next draw our attention.

Children as co-constructors of knowledge

In recent times the term 'co-construction' has featured prominently in influential early childhood publications, although it was implicit in the last century in the work of Dewey (1933) who emphasised the ways in which children construct their learning by actively engaging in, and shaping, their experiences and environments. For instance, Jordan (2004) discusses the term *scaffolding* and compares it with *co-construction*. The specific pattern of interaction that characterised early accounts of scaffolding, according to Jordan (ibid.) and Rogoff (1998), generally maintained the power and control with the adult. They argue that the term co-construction emphasises the child as a powerful player in his/her own learning. An example of how this process of co-construction works in practice is illustrated in the discussions of the Reggio Emilia approach to early childhood education (Edwards, Gandini and Forman, 1998). Co-construction refers to adults and children making meaning and knowledge together (MacNaughton and Williams, 2004). Co-construction recognises the child's expertise and in order to understand this, the practitioner needs to interact with the child and become aware of the child's thoughts and thereby to establish intersubjectivity.

Recent research (Siraj-Blatchford *et al.*, 2002) also highlighted the process of co-construction and found it to be a key factor in terms of promoting children's learning. Essentially a co-construction perspective emphasises understanding and meaning on the part of both child and adult, rather than the acquisition of facts by the child. Jordan (2004) concludes that the two concepts, scaffolding and co-construction have different applicability depending on whether the goal of the practitioner is the exploration of thinking or the achievement of pre-specified learning goals.

> **Key point**
> Co-construction of meaning and knowledge is central to teaching, learning and assessment and it occurs when both child and practitioner engage together in achieving mutual understanding.

Play as a context for formative assessment

As this paper demonstrates, children's learning is complex and assessment approaches need to take cognisance of this. In early childhood, this complexity is abundantly evident as children engage in play. The importance of play to young children's learning and development is a key principle for early childhood practitioners (Wood, 2004). Assessing children's understandings and progress as they play, either alone or with others, is a crucial activity in early year's settings. In assessing the child's learning through play the adult can use a range of approaches and methods. Practitioners make assessments by focusing on children's play interests, their levels of engagement and participation. They make assessments while skilfully engaging with children in play. Skilful engagement includes intervention in play as and when appropriate. Such interventions may serve to initiate or sustain interactions, thereby leading to shared talking and thinking. They may also involve scaffolding children in order to enable them to reach their potential at a particular time. (See the research paper, *Play as a context for early learning and development* (Kernan, 2007) for detailed information on play.) Children's learning is a complex matter and assessment approaches need to take cognisance of this. The paper now looks at emerging approaches to assessment, all of which take account of play as a vehicle for learning and development.

> **Key point**
> Assessing children's understandings and progress as they play, either alone or with others, is a crucial activity in early year's settings.

Emerging approaches to assessment

The rationale for using assessment to enrich and extend children's learning can be located in recent developments in society's understandings of learning in the early years. For instance, in recent decades there have been very big changes in our understandings of human nature and of learning. Gardner (1999, p. 91) reviews what he describes as *several lines of evidence from the cognitive, neural, and developmental sciences which point to a far more capacious view of the human mind and of human learning than that which informed earlier conceptions.* He presents a picture of assessment that builds on the newly emerging picture of human development (see Table 1). Gardner's principles complement the earlier principles presented by Shepard *et al.* (1998). (See pages 16-17.)

Table 1: Gardner's understanding of human development and assessment and Shepard's guiding principles of assessment

Features of human development	Features of assessment
In understanding human development, there is ■ a necessity for a developmental perspective ■ an emergence of a symbol-system perspective ■ evidence for the existence of multiple faculties or 'intelligences' ■ recognition of vast individual differences; ■ the desirability of assessing learning in context ■ locating competence and skill 'outside the head of the individual'.	Assessment should ■ be simple, natural and occurring on a reliable schedule ■ have ecological validity (be done in situations that are real) ■ utilise instruments that are intelligence-fair and not dependent on language or logical faculties ■ use multiple measures ■ be sensitive to individual differences, developmental levels and forms of expertise ■ use materials which are intrinsically interesting and motivating ■ yield information to be used for the learner's benefit.

Performance and authentic assessment incorporate some of Gardner's ideas and a discussion of these follows below.

Performance assessment and authentic assessment

Emerging approaches to assessment take account of developments in theories about learning and about human development. Performance assessment is currently seen as an approach that is particularly appropriate for assessing many aspects of early learning and development (see Bowman *et al.*, 2001). Meisels (1999) describes performance assessment as assessments that are founded on the notion that learning and development can only be assessed over time and in interactions with materials, objects and other people. In this approach to assessment, the expectation is that tasks must be practical, realistic and challenging for children (Torrance, 2001). Performance assessment implies observation of children as they undertake a number of routine tasks in early learning settings. According to Meisels (1999, p. 58) these should meet a number of criteria:

■ tasks should bring together various skills that children display and demonstrate during the course of interactions

■ children should be assisted to perform to the very best of their ability

■ tasks should be guided by developmental standards

■ tasks should engage children in reflection about their work and in articulating their ideas about their learning.

Authentic assessment is a type of performance assessment. It is described as *compatible with the prevailing philosophy that emphasises whole child development* (Puckett and Black 2000, p. 6). This philosophy explains development across a range of domains (for example social, moral, emotional, language and cognitive). It also recognises the diversity of early learning and the role of environmental factors in shaping that learning. From an authentic assessment perspective, curriculum and assessment are interwoven and emphasise relevant and meaningful experiences. Assessment focuses on what children do, and on how they do it in the context of meaningful tasks. Authentic assessment has a number of identifiable features (Puckett and Black, 2000, p. 7), including the following:

- an emphasis on emerging development

- a focus on the young child's individual strengths and weaknesses

- is based on principles of child growth and development

- emanates from logical, meaningful, relevant and applicable curricula

- is performance based

- recognises different intelligence and learning styles

- is reflective and analytic

- is ongoing and occurs in many contexts

- is collaborative with learners, parents and others involved in children's learning

- is interwoven with teaching.

Key point
Authentic assessment is compatible with a whole child perspective on learning and development.

Summary

Where the purpose of assessment is to promote further learning, assessment becomes a particular type of teaching strategy. (See Marshall and Drummond, 2006).

Assessment from a socio-cultural perspective takes account of the key learning processes as determined by socio-cultural theory. In particular, collaboration and the importance in that process of the establishment of mutual understanding (intersubjectivity) need to be emphasised, as do ideas about children's agency and those related to the co-construction of knowledge and understanding. An understanding of the different processes that contribute to children's learning, and the types of interactions that promote it are key to understanding how such learning can best be assessed. The recognition of these processes at work is also central in conceptualising assessment approaches that take account of and display the key role of children themselves in the assessment process. Authentic assessment reflects new understandings about learning and about human development, and recognises the holistic, contextualised and dynamic nature of learning in early childhood. Having discussed the interconnection between how children learn and approaches to assessment, the next section looks at what to assess in children's early learning and development.

Section 3: What to assess in early learning

This section of the paper identifies aspects of learning that are of concern in assessing children's early learning and development. The challenges of assessing a wide range of learning and development in a balanced way are discussed.

The essentials of learning

Skills and knowledge are important in respect of early learning. However, increasingly there are calls for a wider view of what it is that children are learning in the years from birth to six, and for explicitness about other areas of children's development that are now recognised as critical for long term success. For instance, Bertram and Pascal (2002) identify social competence, emotional well-being and dispositions to learn as core constituent elements of the effective learner. In relation to each of these areas they identify elements that characterise the effective learner. Indicators related to disposition include independence, creativity, self-motivation and resilience. Those related to emotional literacy include empowerment, connectedness, and positive self-esteem. Those related to social competence incorporate effective relationships; empathy; taking responsibility; assertiveness and awareness of self. *The Framework for Early Learning* describes early learning in terms of the themes of Well-being; Identity and Belonging; Communicating; and Exploring and Thinking. The assessment of children's progress in these areas is dependent on practitioner judgement, and from this perspective relatively subjective. As practitioners assess these they will look for evidence of development and learning in dispositions, knowledge, skills, values and attitudes.

The early childhood literature demonstrates how, in some instances particular consideration has been given to specific aspects of learning by prioritising that aspect above others. Depending on the particular aspects of learning foregrounded, there are obviously implications for the assessment of that learning, since these are what must also be looked at in the assessment process. For example in *Te Whariki,* (Ministry of Education, 1996) the New Zealand early childhood curriculum, the particular aspect of learning that is highlighted is dispositions. Consequently, the assessment of that curriculum emphasises dispositions in the accounts of children's learning (Carr, 2001). Further details of the rationale for this approach are discussed below. Also discussed are examples of situations wherein an alternative focus is adopted. Dispositions, cognitive development, emotional well-being or sense of self and sociability are the aspects of learning that are highlighted.

Dispositions

Over the last few decades the idea of dispositions has emerged as important in the debate about what is of lasting value in learning. Carr (1999) describes learning dispositions as tendencies that dispose learners to interpret, edit and respond to learning opportunities in characteristic ways. Perkins, Jay and Tishman (1993) suggested a characterisation of disposition as having three components: *inclination, sensitivity* and *ability.* Some commentators have used this three-dimensional characterisation to argue that dispositions cannot be taught directly but that they flourish over an extended period of time (e.g. DeCorte, Greer and Verwschaffel, 1996). Children play an active role in the development of their dispositions by participating and collaborating in related activity. Indeed, Rogoff (1990, p. 171) draws our attention to what she refers to as *… the essential nature of children's own eagerness to partake in ongoing activity.* Dispositions can be described as *relatively enduring habits of mind and action, or tendencies to respond to categories of experience across classes of situations* (Katz and Chard, 1992, p. 30). Desirable dispositions might include perseverance, risk-taking and curiosity. An undesirable one might be helplessness. Increasingly, early childhood curricula provide for the development of desirable 'learning' dispositions, alongside the development of skills and knowledge.

The assessment of learning dispositions has received a good deal of attention in recent years and continues to do so. Carr herself (2001) describes the process of assessing dispositions as one of assessing complex and elusive outcomes. Claxton and Carr (2004) conclude that, such is the complexity of tracking and assessing learning dispositions, no one method of assessment is adequate but what is required is the development of instruments and strategies that will integrate approaches such as learning stories with others, in order to

track and support the development of learning dispositions. The work of Smiley and Dweck (1994) illustrates clearly why identification of developing dispositions (both desirable and undesirable) is important. They found that children (under five years) were already displaying learning dispositions which in some cases would support optimum learning and development (where they displayed an orientation towards learning goals and a consequent tendency towards persisting and having a go), but in other cases would serve as obstacles (where they displayed an orientation towards performance goals and a consequent tendency to avoid taking a risk or avoid getting it wrong). Assessment that identifies developing dispositions will serve to alert practitioners to areas of development that need to be addressed. Looking at cognitive abilities in their broadest sense is also an important part of assessment.

A range of cognitive abilities

Krechevsky (1998) explains how Project Spectrum was set up with the explicit aim of developing a new means of assessing the cognitive abilities of pre-school children. It is described as a research and development project based on the theories of Gardner and Feldman (Krechevsky, 1998). Both theories emphasise a broader view of human cognition than that offered by previous theories. Krechevsky describes how Gardner's theory emphasises a wide range of intelligences not previously identified or documented in assessing children's learning, while Feldman articulated a theory of universal and non-universal domains of development. During the course of the project curriculum and assessment materials were devised *which tapped a wider range of cognitive and stylistic strengths than typically had been addressed in early childhood programmes* (p. 1). According to Krechevsky (1998), the project provides early childhood practitioners with an alternative assessment tool to those traditionally used, and a framework for curriculum enhancement. Gardner (1999) describes how children are surveyed in a variety of intellectual domains (movement, language, mathematics, science, social, visual art and music) and in each case the approach used is one where children are exposed to experiences in the particular domain of interest and then an observation is made of how the child becomes involved in that domain. Specific tasks and measures that are engaging to children, for example mathematical games in the case of mathematics, are introduced in the course of natural classroom activity and children are assessed using these.

Observation of children in potentially challenging situations that arise in the ordinary course of events (for example, an argument with another child) is regarded as appropriate in assessing certain areas of development. Sometimes a fully quantifiable scoring system is used, on other occasions checklists are used or more subjective observations or judgements are made. Intellectual strengths and working styles are the focus of the assessments. Individual child-profiles are drawn up at the end of the year and these draw on both the informal and formal information gathered in each of the seven different domains of knowledge. They incorporate information from both the Spectrum assessments and the teachers' regular classroom observations. Krechevsky (1998) argues that in recognising abilities in music, movement, mechanical science and other areas not usually emphasised, Spectrum provides a way to build children's self-esteem and find ways that they can display competencies. The Spectrum system of assessment can be used in conjunction with any other means of assessing children's learning. It claims to embed assessment in meaningful real world activities; to blur the lines between curriculum and assessment; to attend to the stylistic dimensions of performance; to use measures that are intelligence-fair; and to avoid using language or logic as assessment vehicles (Krechevsky, 1998). Assessing children's emotional well-being is also part of a holistic approach to assessment.

Emotional well-being

Laevers (2000) argues that well-being and involvement of children are key to enabling them to enter into what he terms *a flow state. This he defines as a manifest feeling of satisfaction and a stream of energy felt throughout the body… Young children usually find it in play* (pp. 24-5). This in turn is important, from Laevers perspective, because it enables learning that effects deep structures on which competencies and dispositions are based. Laevers' approach to pre-school education is known as *Experiential Education* (Laevers, 1994), the essence of which is a focus on the child's experiences in the educational setting. Practitioners using this model carry out systematic observation of children using well-being and involvement scales at least three times a year. These scales were also used in England in the Effective Early Learning Project (Pascal, Bertram,

Mould and Hall, 1998). As with emotional competence, assessing self-concept and children's sociability is also important and yet challenging.

Self-concept and sociability

Rogoff (1990; 1998) building on the work of Vygotsky, emphasised the social nature of cognitive development. From a socio-cultural perspective then the ways in which children operate in social contexts is clearly important for their learning and development and also has implications for assessment of learning and development. Broadhead's (2004) work explicates the links between intellectual development, the growth of language and the emotional well-being of children. Her Social Play Continuum offers the practitioner an observation tool; a tool for assessing children's social development; and a means of developing children's sociability. The continuum focuses on children's play activity and their language across the age range three to six years and it illustrates the increasingly complex ways in which children are able to operate socially and co-operatively.

Recent research concluded that one of the critical features of highly effective early year's practitioners was their ability to support children in the area of social relations (Siraj-Blatchford *et al.*, 2002). In the most effective settings practitioners … *supported children in being assertive, at the same time as rationalising and talking through their conflicts* (p. 12). For example, the use of story books and group discussions to work through common conflicts, and the subsequent documentation of children's reactions and interactions could provide important evidence of learning and development in this area. Assessing social development is an important part of the assessment process and it is clear that assessment in early childhood needs to assess the child's overall development and not just very specific skills or abilities.

Summary

Early childhood practitioners need ways of assessing each and all of the various aspects of learning since they are all critical. It is particularly important that we pay close attention in early childhood to the assessment of the constructs that we know are essential for later achievement and the enhancement of life chances (Meisels and Atkins-Burnett, 2006). *The Framework for Early Learning* identifies these as well-being, identity and belonging, communicating, and exploring and thinking. Each of these contributes to children's development and none is sufficient in itself. Adams, Alexander, Drummond and Moyles (2004) make the following point:

> … *it is the quality of the whole that must be continuously reviewed and evaluated. When children are demonstrably secure, happy, confident, even joyful, it is not necessarily an easy task to ask oneself whether they are, in fact, experiencing a challenging and worthwhile curriculum.* (p. 27)

While these remarks were made in the context of reporting on their findings regarding the extent to which the play-based Foundation Stage curriculum was being implemented in schools in the United Kingdom, they nevertheless raise a very crucial issue regarding the importance of assessing a range of aspects of early learning. Now that we have more information on what to assess we move on to looking at how to assess early learning.

Section 4: How to assess early learning

This section of the paper explains the significance of a narrative approach to assessment in early childhood. A number of methods of assessing children's early learning and development are discussed. The process of documentation of information derived about children's learning is described with specific reference to the work of practitioners in Reggio Emilia, in Northern Italy.

A narrative approach to assessment of learning in early childhood

Narrative or story approaches have been used by a number of educationalists both to understand practice and to communicate with others their thoughts about that practice. Bruner (1999b, p. 175) describes narrative as *a mode of thought and a vehicle for meaning making.* However, he also cautions that *if narrative is to be made an instrument of mind on behalf of meaning making, it requires work on our part -reading it, making it, analyzing it, understanding its craft, sensing its uses, discussing it* (p. 176). The implications then for narrative assessments are that they are not ends in themselves, but must be used as tools for reflection and for sharing with others in order to seek out possible other meanings. From Bruner's perspective then, narrative has both a meaning-making function and a communicative one.

Paley's work (1979; 1981) provides us with an example of a practitioner who has made extensive use of narrative in order to share her ethnographic observations of children. Her case-study narratives have been published in a series of books beginning in 1979 and have continued for over two decades. They illustrate her careful listening and deep reflection on what children had to say. Paley's work is of interest in relation to assessment since it clearly illustrates how this particular practitioner continually modified her teaching in response to her observations of children. Her use of the tape-recorder illustrates how reflection can be achieved even in a busy early education setting and especially how it can be done in discussion with children.

Genishi (1992) too emphasises the importance of storying for conveying aspects of everyday experiences in early childhood settings. The potential of stories as powerful tools was expressed by Witherell and Noddings (1991, p. 280) when they stated;

> *They provide us with a picture of real people in real situations, struggling with real problems... They invite us to speculate on what might be changed and with what effect.*

Learning stories involve a narrative approach to assessment and we look at this credit-focused approach next.

Learning stories: A credit-focused approach

Carr (2001) and her colleagues in the early childhood community in New Zealand developed the learning stories approach to documenting children's learning. This was developed in response to a need to develop a pedagogy that was consistent with new conceptualisations of early learning and development as encapsulated in *Te Whariki,* the New Zealand early childhood curriculum (Ministry of Education, 1996). The work on assessment in early learning that Carr and her colleagues undertook over several years was inspired by the work of Black and Wiliam (1998b). In particular, their strategies for how to improve learning through assessment provided some important starting points for progressing the work on early childhood assessment in New Zealand (Podmore and Carr, 1999). Influential ideas were developed in relation to a number of issues: the quality of practitioner-child interactions; the encouragement and support for children to take responsibility for their own learning; the specifics that enable children to move out of the low-attainment trap; and the development of positive learning dispositions.

Carr (2000, p. 32) describes learning stories as *structured observations, often quite short, that take a 'narrative' or story approach. They keep the assessment anchored in the situation or action.* The structure in Carr's approach is provided by the categories of observation that are directly linked to the strands of *Te Whariki,* the New Zealand Early Childhood Curriculum. What is different about Carr's approach is the emphasis on assessment of learning dispositions through structured observation. Hers is a credit-based approach in the

sense that it involves identifying and building on the child's current abilities. The model takes a holistic view of learning and development and so gathers evidence in relation to children's developing dispositions and also their achievements and their progress over time (Carr, 2002). In this way it sets out to track children's learning journeys. In the learning stories approach telling the story of children's learning requires, then, rich and deep accounts of selected events as they are observed through specific lenses (in the case of the NCCA the themes of the curriculum). Carr (2001, p. 181) argues that *Learning Story assessments mirror and protect the complexity of learning by using a narrative approach.* These assessments are learner-centred as opposed to content-centred. They do not fragment children's learning and they pay attention to the positive, rather than focusing on need and deficit. Contrasting this credit-focused approach with her previous assessment practices, Carr comments as follows:

> *In my folk model, assessment was designed to highlight deficits. This notion of the developing child as incomplete, a jigsaw with parts missing, means that the areas in which the child is 'unable' become the sites of greatest educational interest. Competencies that can be ticked off the checklist will attract little interest… The alternative approach is a credit model… The relevant community decide what domains of learning disposition are important…These are the sites of educational interest…* (pp. 11-12).

The learning stories approach, as developed in New Zealand (Podmore and Carr, 1999; Carr 2001), is a really important development in assessment practice in early childhood since it is an attempt to bring coherence between the socio-cultural approach to the curriculum *Te Whariki* and the assessment of children's learning in early childhood education and care settings. It serves to illustrate one way in which early childhood practitioners, both in New Zealand and elsewhere, might approach socio-culturally oriented assessment. Some practitioners in Ireland are currently using the learning story approach. Brennan (2004) demonstrates its use by practitioners to interpret and present children's learning in play situations (Brennan, 2004). A recent study which sought to implement the learning story approach in a junior infant class in a disadvantaged school in Ireland found that using this approach had a number of beneficial outcomes including tracking the development of crucial learning dispositions; highlighting aspects of subject-based learning; promoting collaborative assessment; and engaging parental participation and interest (Ennis, 2006).

Key point
Learning stories are accounts of specific instances of learning that capture its complexity and richness. The stories make both early learning and the assessment of that learning visible.

Learning stories are a useful approach to assessment, but developing them in a way that is really coherent with a socio-cultural approach is, as we shall see next, challenging.

A fully-contextualised account of learning

The extent to which the learning stories approach, as developed in New Zealand, can be said to be truly consistent with a socio-cultural approach to learning is challenged by Fleer (2002). She argued that the extent to which practitioners would, in reality, move beyond an individualistic account of learning whilst using this approach is questionable. Fleer's position is that a truly socio-cultural approach takes into account all of the aspects of the situation in which the assessment takes place. In her view, a socio-cultural approach to assessment makes it imperative to look beyond the influence of context on children's learning (the social influences approach) and also look at the adult-child sequences; the culturally mediated tools in use in the situation; and the culturally or institutionally derived ideals present.

Meisels (1999) also argues strongly for a dual focus on the child and on the environment in which the child is learning. From this perspective there is integration between an emphasis on the child's development and a recognition that the practitioner's perceptions shape the content of what is taught, learned and valued. His interactionist view draws attention to the fact that children are in interaction with the learning environment and they change the environment (as a result of actions and interactions) and the environment influences what they can accomplish. Meisels and Fleer both share the view that assessments must focus jointly on the child and on the educational environment. Fleer (2002, p. 113) suggests that what is interesting about

the socio-cultural approach to assessment is that *the adult's participation in the lived teaching-learning context, the cultural tools that are being used (e.g. board games, books, technological tools), and the children's participation are all examined.* In this approach three perspectives on the learning that occurs are taken account of: the individual (focusing on the individual child); the social (focusing on the interactions that take place in the situation); and the cultural (focusing on the institutional and cultural aspects of the context in which the assessment is taking place).

Fleer and Richardson (2004) describe assessment from a socio-cultural perspective as assessment that takes account of the whole learning journey of the group of children, rather than individuals. They describe how, in their own cutting edge research on assessment from a socio-cultural perspective, a number of aspects of the situation are recorded. These include the intentional interactions, the adult modelling, the use of cultural tools (for example, writing), the child-teacher interactions and the child-child interactions. In fact, Fleer (2002) suggests that Rogoff's (1998) elaboration of researching development from a socio-cultural perspective has been particularly useful for thinking about assessment practices in early childhood education. However, based on their own research, Fleer and Richardson (2004) argue that, when assessing learning, moving from an individualistic approach to a socio-cultural one is a major paradigmatic shift and will present many challenges to early childhood professionals. Challenging as it may be, Fleer (2002) nevertheless argues strongly that such a change is essential if there is to be coherence between prevalent pedagogical and assessment practices.

> **Key point**
> In assessing early learning and development, interactions and context are key to understanding the learning and development of the child.

In summary, recent developments in socio-cultural learning theories strongly suggest that as practitioners assess children's learning, there is a need to move away from focusing on individual thinking and move towards a focus on distributed learning and thus on assessment that uses multiple lenses, including the social and institutional. There is a seemingly irrefutable argument that assessment practices in early childhood education must move towards coherence with a socio-cultural view of learning and development. This implies an approach that reflects the complexity of the interactions between the child, the context and the people or objects that contribute to the learning at any given time. Both Carr and Fleer above represent efforts to align assessment practices with socio-cultural learning theories. They do so by using a story approach. Hall and Burke (2003) argue that, in the context of early childhood education, the story approach *is more likely than any other ways we have encountered to offer respectful accounts of learners and their learning as well as accounts that support future learning* (p. 143).

In the following pages various means by which practitioners gather information on aspects of children's early learning and development are explored.

Methods for collecting information on children's learning

Genishi (1993, p. 66) suggests that *an adequate means of assessment is compatible with the curriculum it is to assess. The Framework for Early Learning* emphasises the themes of well-being, identity and belonging, communicating and exploring and thinking. There are a variety of methods that may be used in the assessment of these aspects of early learning and development. Authentic situations where children are engaged in meaningful and relevant tasks in everyday activities are the best context in which to assess. The observational, interactional, reflective and documenting skills of the practitioner will be key in carrying out assessments. Methods for assessing early learning and development are discussed in some detail in the pages that follow.

Observing and empathising

Issacs (1930) remains one of the most influential of the early childhood pioneers. Perhaps her strongest legacy is her use of observations to assess children's learning and development. She strongly advocated the use of systematic observations and in the relatively free atmosphere of the experimental Malting House School she and her colleagues carried out a great deal of observations of children aged between two and nine years of age. Drummond (2000, p.4) describes how Issacs put her rich observational data to excellent use in drawing it together to construct *a coherent account of the development of children's intellectual and emotional powers.* Issacs' legacy is that she demonstrated vividly how looking closely at everything children do, think and feel is important in understanding their learning.

Practitioners who have close personal relationships with babies, toddlers and young children are the people best placed to make observations of their learning. Goldschmied and Jackson (2004) describe how such relationships provide the context within which children are most likely to seek appropriate support from adults and so progress their learning and development. It is also within the context of close relationships that children are most likely to make their feelings known and thus make it easier to assess their well-being. By knowing individual children very well, practitioners are then well placed to read and understand the messages that babies, toddlers and young children express through their body language and non-verbal and verbal behaviour. Knowledge of core developmental lines (for example mobility, manipulative skills, feeding and bodily care, and the acquisition of the ability to communicate in words) is seen by Goldschmied and Jackson (2004) as essential for practitioners in early education settings. Such knowledge equips them to play their part in ensuring that learning and development progress smoothly.

Pramling (2004) explores the different ways that children of different ages tell others about their perspective on the world. She concludes that any child's ability to tell stories or express his or her opinions or perspective is very much dependent on whether the child has a relationship with the practitioner and other children. She also argues that it is not enough just to listen, the practitioner's task is to then direct the child towards what it is we want her/him to learn.

Key point
Observation is central in assessing the learning and development of children. Its validity is likely to be enhanced if a practitioner who knows the child well, and with whom the child has established a close relationship, carries out the observations.

There are a number of observational tools that have been used extensively for the assessment of early learning and development. For instance, *The Target Child Observation Schedule* was developed as a research tool for an observational study of three to five year-old children in England over three decades ago (Sylva, Roy and Painter, 1980). It has since been further refined for use in both research (see for example Siraj-Blatchford *et al.*, 2002) and as a practice tool. *The Child Observation Record* was developed by High/Scope as a means for practitioners to assess learning and development in the six broad areas addressed in the High/Scope curriculum. This is a comprehensive assessment system (Bowman *et al.*, 2001) that focuses on child behaviour, emphasises the incorporation of anecdotal records and ensures that instruction is based on assessment information.

The practice of assessment through observation (and reflection and interaction) continues to be developed and framed within new and emerging theoretical frameworks. It is also important to note that practitioners can develop their own observational tools. The most important consideration is that the curriculum is used as a guide and any observational tools developed in the early learning setting focus on the areas that the curriculum highlights.

Key point
Practitioners reflect on and interpret their observations and use that information to support further learning.

Children's interactions and conversations with the key people in their lives can tell us a lot about their learning and development. We look at these next.

Conversations with children

Day-to-day conversations provide rich contexts for assessments of children's early learning and development. To maximise the potential of these conversations for assessment it is essential that practitioners listen carefully in order to understand what the child is seeking to communicate, either through gesture, behaviour or language (MacNaughton and Williams, 2004). Conversations with babies, toddlers or young children engage the practitioner in reflection and interpretation in their efforts to understand the child's intent. Skilful use of questioning during these conversations can elicit children's theories and understandings, enabling them to share feelings and engaging them in speculation and imaginative thinking (Fisher, 1990; Wood, 1992; Siraj-Blatchford and Clark, 2003).

Research indicates that for pre-school children, non-verbal signs are crucial for communication (see Flewitt, 2005, for a review of this research). Gestures such as imitating actions, intentionally using gaze, touching and pointing have been identified as key modes of expression and communicating for three-year-old children. These often accompany talk and supplement children's linguistic resources and abilities. The implication of this for assessment is that practitioners must be sensitive to this multi-modal dimension of children's expressions of meaning making. Flewitt's (2005) study of three-year old children indicated *how adults and children co-constructed meaning not only through words but also through gaze, facial expression, and body movements* (p. 220).

While multi-modality is a feature of children's expression of meaning, it is also a feature of their representations of meaning and it is essential to recognise this in the assessment of their learning. Anning and Ring (2004, p. 124) urge that we recognise that multi-modality *is core to children's preferred ways of representing and communicating their growing understanding of the world and their roles as active members of communities.* Children's mark making should always be considered to be intentional and analysis of mark-making and drawings can convey a great deal about children's emerging understandings of all aspects of their world, including those in the areas of numeracy and literacy (Worthington and Carruthers, 2003; Anning and Ring, 2004). Children's drawings can be understood as their personal narratives *which they use to order and explain the complexity and their experiences of the world* (Anning and Ring, 2004, p. 5). Discussions with children about their drawings, or listening to children explain their drawing to others, can give the practitioner rich insights into children's understandings, preoccupations, sense of identity, and interests.

However, there are also occasions when practitioners need to ascertain information about a young child's learning which is not evident from the child's performance in everyday activity in the education setting. The 'clinical' interview is a suitable method to use when the goal is to ascertain the young child's underlying thought processes. It is more formal than everyday conversation but still flexible and responsive to the child's responses.

Clinical interviews

Variations on what is known as 'the clinical interview' have been identified as important in the search for new approaches to the assessment of early learning (Bowman et al., 2001). Piaget was very much a pioneer in the area of interviewing children. In *The Child's Conception of the World* ([1929] 1997) he discussed the challenge of exploring cognition and thinking in children and of the necessity for developing a sufficiently sensitive way of carrying out such explorations. Piaget developed what is now known as the *clinical interview method* in order to investigate underlying patterns in children's thinking. The clinical interview, as a method, has been developed over the years since first used by Piaget. It is especially of interest when traditional methods of enquiry, such as observation, are inadequate for the kinds of explorations needed to uncover children's thinking.

There is considerable flexibility in the interview design and an anticipation that the questioning will emerge and develop as the interview progresses. The approach is *deliberately non-standardised* (Ginsburg, 1997, p. 29). The word *clinical* is used to describe an aspect of the methodology. As Ginsburg explains, it is used

*… not in the sense of focusing on pathology but in the sense of great sensitivity to and understanding of the **individual*** [original emphasis] (p. 109). The practitioner acts as clinician in judging how to respond to different children by *being sensitive to the nuances of individual needs* (p. 140). There is reciprocity and mutual turn-taking in communicating and both the interviewer and the child become significantly involved in the development of the conversation (Doverberg and Pramling, 1993). Doverberg and Pramling (1993) describe how and why they use interviews and also exactly what is involved on the part of the child and the practitioner. Pramling (1983) described her purpose as exploratory rather than evaluative. The questions she put to children had no correct answer as such. Pramling's interviews with children were dialogical in nature. In her study of learning the purpose of the questioning was to come as close as possible to the child's world by enabling children to describe their experiences.

Ginsburg (1997) argues that this methodology helps to reveal the fluidity of children's thinking in that we may witness how children can appear to possess certain knowledge but can only exhibit it in certain situations, or in relation to particular tasks. The flexibility of the method means that the interviewer is free to respond by altering the task or the question as fitting. Also the dynamic aspects of children's thinking may be revealed as they interact with the ideas and tasks raised in conversation during the interview.

> **Key point**
> The fluid nature of children's thinking may result in children displaying learning in one situation and not in another. This means that it is important to assess children's understandings across a range of contexts and on a number of occasions.

More recently, Dunphy (2005) discusses the use of clinical interviews in the domain of number, with four-year-old children on the point of entry to infant classes in Ireland. Essentially the interviews provided information that could form the basis for planning children's learning experiences. Dunphy (2006) argues that, with some minor modifications, this methodology could be used by knowledgeable and informed practitioners as a way of assessing children's learning and development. One of the strengths of the method is its ability to assess both cognitive and affective aspects of children's understandings and indeed to assess children's dispositions in the domain of interest. Dunphy reported that interviewing was, in her experience, relatively efficient in assessing children's learning in the domain of number, in a relatively short amount of time. Consequently she argued that it is within the reach of practitioners in terms of the time commitment required. This is an important consideration since previous research has found that methods that required lengthy observations didn't work for busy practitioners (Fleer and Richardson, 2004). While it may take practitioners time to perfect the technique of interviewing children, it appears that this pedagogical practice has a great deal to offer practitioners, in particular in relation to assessing children's learning and in clarifying goals for learning. How to compile an account of learning is another consideration and that is explored next.

> **Key point**
> Assessment of early learning and development requires practitioners' dedicated time and attention.

Making sense of children's learning

This part of the paper looks at how to compile the information we have learned about children's learning and development and discusses documentation and portfolios.

Sustaining learning and development through documentation

Documenting generally refers to the processes of recording, reflecting on and using information about children's learning. Documentation in the form of observations of children and extensive record keeping has long been encouraged and practiced in early childhood education and care (Katz and Chard, 1996). In recent years however, documentation practices in early childhood education have been greatly advanced by practitioners in the Reggio Emilia pre-schools.

In the Reggio Emilia pre-schools they focus intensively on the processes of learning. The documentation of learning includes detailed accounts of children's experiences, ideas and thoughts at different stages of their project work. It can be in a variety of forms including photographs, video and audio-recordings, comments from the various adults involved with the children's learning, comments from the children and transcriptions of the children's conversations. Rinaldi (1998, p. 120) describes how the educators there use notes, observation charts, drawings and other narrative forms as well as audio-tapes, photographs, slides and videotapes since they consider that all of these help to … *make visible children's learning, the ways to construct knowledge, the emotional and relational aspects.* The tracking of that learning is also important. To the practitioners in Reggio Emilia, documentation is a strategy whereby children's learning can be traced. The interpretation of this documentation is critical and reinterpretation and discussion takes place in the company of colleagues. According to Malaguzzi (1998, p. 121) *it is in these shared moments of comparison of ideas and discussion (which are not always easy) that interpretative theories and hypotheses are generated.* Malaguzzi describes how in Reggio Emilia, documentation serves as a memory for children of activities undertaken. They use it as the basis of discussion so that they can revisit, reflect and interpret their own knowledge and that of others. It is used by practitioners to help children to evaluate their work. In this way it involves children in self-assessment. Shared with parents, documentation helps parents see not only what the child is learning but importantly how and why.

In Reggio Emilia they speak of a pedagogy of listening. They see listening to children as both necessary and expedient (Malaguzzi, 1998). It is seen as a core component of documentation. Rinaldi (1998, p. 120) describes listening *as a general metaphor for all the processes of observation and documentation.* She suggests that documentation offers the practitioner the unique opportunity to listen again and reflect on the learning processes observed. Dahlberg et al. (1999) are more explicit about what is involved in listening: *Listening means listening to the ideas, questions and answers of children, and struggling to make meaning from what is said without preconceived ideas of what is correct or valid* (p. 60). The documentation of children's learning: listening; observing; gathering documents; and interpreting them is a key aspect of pedagogical practice in Reggio Emilia. From this perspective documentation is more than a record of learning.

The *mosaic approach* to listening to children was developed by Clark and Moss (2001) as a means of including children's perspectives when developing services for them. Their approach illustrates how it is possible to use a variety of tools which enable children to convey their ideas and feelings to practitioners in a range of symbolic ways, besides talk, for example through photographs and drawings. They describe the approach as *a way of listening that acknowledges children and adults as co-constructors of meaning. It is an integrated approach which combines the visual with the verbal* (p.1) … *a multi-method approach in which children's own photographs, tours and maps can be joined to talking and observing to gain deeper understandings of children's lives* (p. 3). Clark and Moss argue that the mosaic approach can also be used to listen to children's ideas about their learning. The process described by them appears to be potentially fruitful in relation to assessing the aspects of early learning as set out in the NCCA's *Framework for Early Learning.* The NCCA previously used the mosaic approach in their portraiture study *Listening for children's stories: Children as partners in the Framework for Early Learning* (NCCA 2007b).

> **Key point**
> Documentation, shared and discussed, can be an important source of professional development for practitioners. It can enhance relationships between practitioner and children and lead to better communication. It also serves to bring parents into the discussion of children's learning.

The next part of the paper explains how documentation can be compiled in portfolios so that it can be shared with children, parents and practitioners.

Portfolios

Portfolios offer a practical approach to the challenge of assembling and organising the range of information on children's learning and development (Puckett and Black, 2000). Portfolios are purposeful collections of evidence of early learning and development and of children's progress in relation to the learning goals of

the curriculum. They draw from the range of information on children's learning. In the case of babies and toddlers, the responsibility is on the practitioner (perhaps in conversation with parents or guardians) to select the information that will be compiled as a record of learning. As soon as they can, children should be encouraged to participate in the selection process with adults. Digital technologies, for example cameras and video recorders, offer considerable potential to enhance the range of material and information that can be assembled about children's early learning and development. Digital technology is also a useful way of collecting and presenting a great deal of information about a child's early learning and development in a succinct form. The material thus compiled has a number of functions: it can be the basis for adult/child conversations; it can be central in providing information to parents or guardians; it can be the basis for practitioner reflection, either by the practitioner alone or with colleagues; it can be the focus for planning activities based on what is known about the child.

A two-way flow of information between practitioner and parents is important. Parents are an important source of information about children's learning and development and their observations and insights are essential in putting together a comprehensive picture of individual children's strengths and needs. Information from practitioners can help parents support, extend and promote children's learning at home.

The processes of compiling, talking about and sharing portfolio work will also contribute to children's ability to think and talk about their own learning and that of others—helping them to become meta-cognitively aware. It also involves children in the process of self-assessment wherein they begin to be aware of goals for learning and of the possibility of setting their own goals, and reflecting on and making judgements about their own progress towards those goals. In emphasising this last point, Moyles (1989) argues that children

> *… are frequently the best assessors and testers of what they have learned. Occasionally, they will quite exhaust themselves in proving to themselves and others mastery over a particular activity or material. In assessing children's learning, discussions with the children as an individual can often produce the most useful information especially as to concepts, knowledge and experiences gained, which, when supported with observations and careful records, give a good overall profile of that child* (pp. 125-6).

Key point
Involving children in discussing and evaluating their own work is important for their developing sense of themselves as learners.

Summary

A narrative approach to assessment of early learning appears to have much to offer practitioners. It has the potential to portray a rich picture of early learning and development, and to capture its complexity. It also provides a focus for reflection and a means of communicating with others, including children and parents, about the learning it describes. However we have also seen that it is not without its challenges. From a socio-cultural perspective it is important to avoid focusing only on the individual child, but to attend also to the social and cultural aspects of the situation and to include these when appraising the learning. Documenting all of this is demanding, as is making sense of the information and deciding on its implications for planning further learning experiences.

Key methods for assessment are observation, empathising, listening and reflecting. Observations and adult-child discussions always have been and will remain central to assessment of early learning and development. Observation is the principal method at the practitioner's disposal when assessing babies and toddlers. As children move up through the age range they begin to use other symbolic means, in particular language, to express and communicate their meanings and then there are a wider range of possibilities for assessment to supplement the practitioner's observations. A wide range of ways to record their observations is available to practitioners. Indeed, any record of any aspect of children's learning can contribute to the documentation. For example, when the concern is the development of a specific skill set, the practitioner may wish to include a culturally and linguistically appropriate checklist in the documentation and this can contribute to the assessment of the child's learning (See Krechevsky 1998, for examples of how and when checklists can be used). The appraisal of children's products (for example their mark-making and drawings) will also contribute to the overall picture of children's early learning and development.

Children themselves should be involved in assessing their own learning and development where possible. All of the adults who interact with individual children will have something to contribute in relation to assessing learning. Portfolio assembly should be done in conjunction with children. The main concern is that a variety of assessments are made, at different times and using a range of tools so that the richest possible picture of learning and development emerges. Such a picture is compiled from examples and accounts of learning and clearly indicates the child's strengths as well as areas for development.

The next section of the paper looks at professional development for early childhood practitioners to support them in developing their assessment practice going forward.

Section 5: Assessment and the practitioner

This section identifies and discusses the demands which assessment makes of practitioners in carrying out assessment of early learning and development in ways that enhance children's leaning and development; are sensitive and respectful to children; do justice to children; protect children's rights, and ultimately support children's further learning and development. This discussion may be helpful in mapping the way forward in supporting the early childhood sector in developing assessment practice.

Professional knowledge

The importance of looking at assessment from the basis of sound professional knowledge of all aspects of early learning and development is articulated as follows:

> *Perhaps it is now time to shift the emphasis in the early years; time to move from a position whereby starting with the child has prevailed into one where we begin from an informed understanding of learning. As we move into an era where observations in early year's settings become the norm rather than the exception, let's not think about watching the children; rather let us talk and think about understanding their learning* (Broadhead, 2006, p. 202).

Assessment is a matter of informed judgement. It involves the practitioner in judging the nature and extent of a child's learning and development; the significance of the learning under scrutiny; the role of the context in that learning; and how best to support further learning and development. The ability to make informed judgements then is critical to the process assessment. Judgements about the learning and development of babies, toddlers and young children are informed by professional knowledge (see, for example, Athey 1999). This will necessarily include;

- a comprehensive understanding of early development and learning

- an understanding of diversity amongst children and families

- a sound understanding of subject matter content and pedagogical content knowledge (Shulman, 1986)

- an understanding of the integration inherent in early learning

- an understanding of ways in which authentic assessment may be carried out (Shepard *et al.*, 1998; Shepard, 2000; Puckett and Black, 2000; Black, Harrison, Lee, Marshall and Wiliam, 2003).

Assessment engages the practitioner in theorising (Bowman *et al,* 2001). Indeed, Carr (2001), in writing of the learning stories approach, highlights the issue that while the approach provides evidence of learning, translating the learning stories into assessments can be very challenging. Putting observational data to good use was found to be an area of professional activity that practitioners in New Zealand needed support with (Carr, May and Podmore, 2000).

> **Key point**
> Considerable professional understanding is required to carry out assessment of early learning and development.

Skills base

Practitioners draw on a range of skills in carrying out assessments and in using information from those assessments to support children's learning and development. Interactive skills have been shown to be of particular significance (see Section 2). These include scaffolding and co-construction. Different skills are appropriate for different purposes. Skills such as questioning, talking and listening play a key part in using assessment to impact positively on learning and development. Observing, documenting and reflecting likewise are necessary especially in supporting practitioners to come together to analyse and interpret information about early learning and development.

> **Key point**
> Good assessment practice by the practitioner is dependent on a range of highly developed skills.

Ethical considerations

It is imperative that practitioners consider a range of ethical issues when assessing children's early learning. Trusting children to show what they are learning and respecting their learning agendas is paramount. It requires receptiveness on the part of the practitioner to children's ideas and openness to listening for their messages. Receptiveness to children's mood and assent and sensitivity to different communicative modes is also something that warrants careful consideration. Practitioners also need to ensure that they give adequate time to the assessment process in order to do justice to children's learning and development. An increasingly culturally and linguistically diverse population of children in early educational settings in Ireland means that in many cases the practitioners with whom children interact have different cultural perspectives. For many children from culturally and linguistically diverse backgrounds the language of the early learning setting will not be the language spoken in the home. Both cultural differences and communication difficulties present very specific challenges in terms of the assessment of the learning and development of these children. In order to adequately assess the learning and development of culturally diverse children it is essential that practitioners are culturally competent (Valdivia, 1999). Because of the central role of language in learning it is also crucial that practitioners are well informed about language acquisition, second language acquisition and the assessment of learning and development in this area (Siraj-Blatchford and Clark, 2003). Assessment of the abilities of children whose first language is not the language of the setting needs to incorporate information from parents/guardians in order to build a picture that reflects honestly that child's strengths, interests and needs as a young learner.

> **Key point**
> Assessment involves the practitioner considering a range of ethical issues.

Manageability of assessment

As this paper has highlighted, assessment of early learning and development is extremely complex and potentially time-consuming. Authentic assessments of children's learning and development necessitate using a number of assessment methods including observation, child conversations, and documentation. Through these methods, the practitioner gathers information on children's emerging skills, knowledge, understandings, feelings and dispositions. Practitioners reflect on and discuss the information with others including children, parents and other practitioners. Practitioners in Reggio Emilia spend a great deal of time on documentation and reflection (see Section 4) facilitated by procedures that are built into their system in order to facilitate a high level of practitioner activity and engagement in the documentation process. The amount of time needed to engage in new forms of assessment of early learning and development is something that many teacher-practitioners raised in a study of practice with young children in Cork schools (Ridgway, 2001). Research indicates that the issue of manageability is not just of concern to some practitioners here in this country. It has also emerged as an issue with practitioners in other countries, for instance in Australia (Fleer and Richardson, 2004).

> **Key point**
> The assessment of children's early learning and development needs to be manageable for practitioners.

Tensions

The process of carrying out assessment can give rise to tensions. One of these relates to curriculum and more specifically to how the curriculum is articulated. For example, a tension is introduced in situations where curriculum imperatives such as the achievement of specified objectives make assessing using authentic tasks challenging. This presents particular challenges for practitioners working with children in infant settings in primary school. Using authentic assessment involves infant teachers designing relevant, meaningful and engaging tasks that enable young learners to display subject-specific knowledge, skills, understandings and attitudes, and which enable the teacher to discern aspects of learning such as dispositions. Undoubtedly, a tension exists also between subject-specific assessments and more holistic assessments. The teacher may be faced with the dilemma of how to focus on holistic issues of importance such as self-concept and creativity while at the same time focusing on subject-specific learning such as levels of phonological awareness, or knowledge of numbers. This is a reminder of the need for practitioners to have not only an extensive understanding of early learning and development but an equally extensive knowledge of how to make, for example, literacy accessible to the child across his/her learning.

A further tension exists between the use of what practitioners might consider the more manageable tools for observation of learning such as checklists and the use of more time-consuming tools such as learning stories. These tools serve very different purposes. Checklists may provide a useful way of capturing important information for example in the case of skills development (see Kreschevsky, 1998 for examples of checklists used as part of an overall portfolio of children's learning). The danger is that practitioners may, in the course of a busy day, find it more manageable to use the less demanding tool (checklists) rather than compiling rich and potentially more useful narrative accounts of children's learning (learning stories).

Bowman *et al.* (2001) argue that what early childhood practitioners know and are able to do is one of the major influences on the learning and development of babies, toddlers and young children. This paper has consistently argued that an understanding of early learning is crucial for assessment in early childhood. Practitioners equipped with such an understanding are in a position to embrace the challenges of finding ways of assessing early learning which enhance children's learning and development; which are sensitive and respectful to children; which do justice to children; which protect children's rights, and which support children's further learning and development.

> Key point
> Tensions that arise in practising appropriate assessment in early education settings can have significant influence on what is assessed and how that assessment is carried out.

Concluding comments

This paper describes current thinking, nationally and internationally, in relation to assessment in early childhood education. Central to the paper is the point that assessment in early childhood is about making children's early learning visible. We have seen that this can be achieved through the processes of collecting information about children's learning and development, documenting that information, reflecting on it and then using the information to support and extend learning. We have also seen that the character and complexity of early learning means that assessment is also complex. It necessitates the employment of methods that will allow for the development of suitably rich accounts of children's early learning and development.

This paper emphasises the need for assessment practices in guidelines developed by the NCCA to be coherent with the socio-cultural perspectives on learning and development. A number of interesting issues, tensions and challenges arise from the material explored in the paper and these are highlighted and discussed.

Assessing a range of aspects of learning as children engage in everyday activity in their early learning setting, and doing this work routinely as part of daily activity is clearly indicated in the paper as good practice in terms of assessing children's early learning and development. It appears that a narrative approach to describing early learning is one that offers practitioners a way of providing a rich picture of early learning through documenting particular instances of learning, a focus for reflecting on learning and of making decisions regarding provision and a way of communicating with others about children's learning. However, we have also seen that narrative approaches are challenging to implement in practice.

Seeing children as active participants in assessment and recognising and acknowledging the fact that children themselves play a vital role in the process may, for some practitioners, present a new perspective on assessing early learning. The wide range of ways in which children may present and communicate their learning and development may also need to be explored by practitioners. Consideration of the key roles of culture and of language in the assessment process may be the way to encourage practitioners to consider some of the ethical issues that the paper highlights.

The paper also highlights the extent of the understandings and the range of skills needed by practitioners in order for them to engage in assessing early learning and development. It is clear that a thorough knowledge of how children learn, but also sensitivity to the many ways in which they may display learning and development during the years from birth to six, is critical. Cultural competence is seen to be very important for the practitioner, as is knowledge of how children may be introduced to culturally important areas of learning such as literacy and numeracy. The relationship between practitioner and individual children is highlighted as central in terms of assessment and we have seen how evidence of learning and the extension of that depend so much on very specific types of interactions between practitioner and individual children.

Supporting practitioners to approach assessment of early learning with enthusiasm and confidence in order to make sound judgements about children's learning and to identify ways to support and extend that learning, is a central concern arising from the paper. Professional preparation and development as part of pre-service and in-service are fundamental to helping practitioners develop the skills and understandings they need to competently assess early learning on a day-to-day basis. Appropriate contextual supports such as adequate time and opportunity to meet with colleagues are also essential. The guidelines on assessment which will be part of *The Framework for Early Learning* will also provide support in enabling practitioners to meet the challenges presented in relation to the assessment of early learning.

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