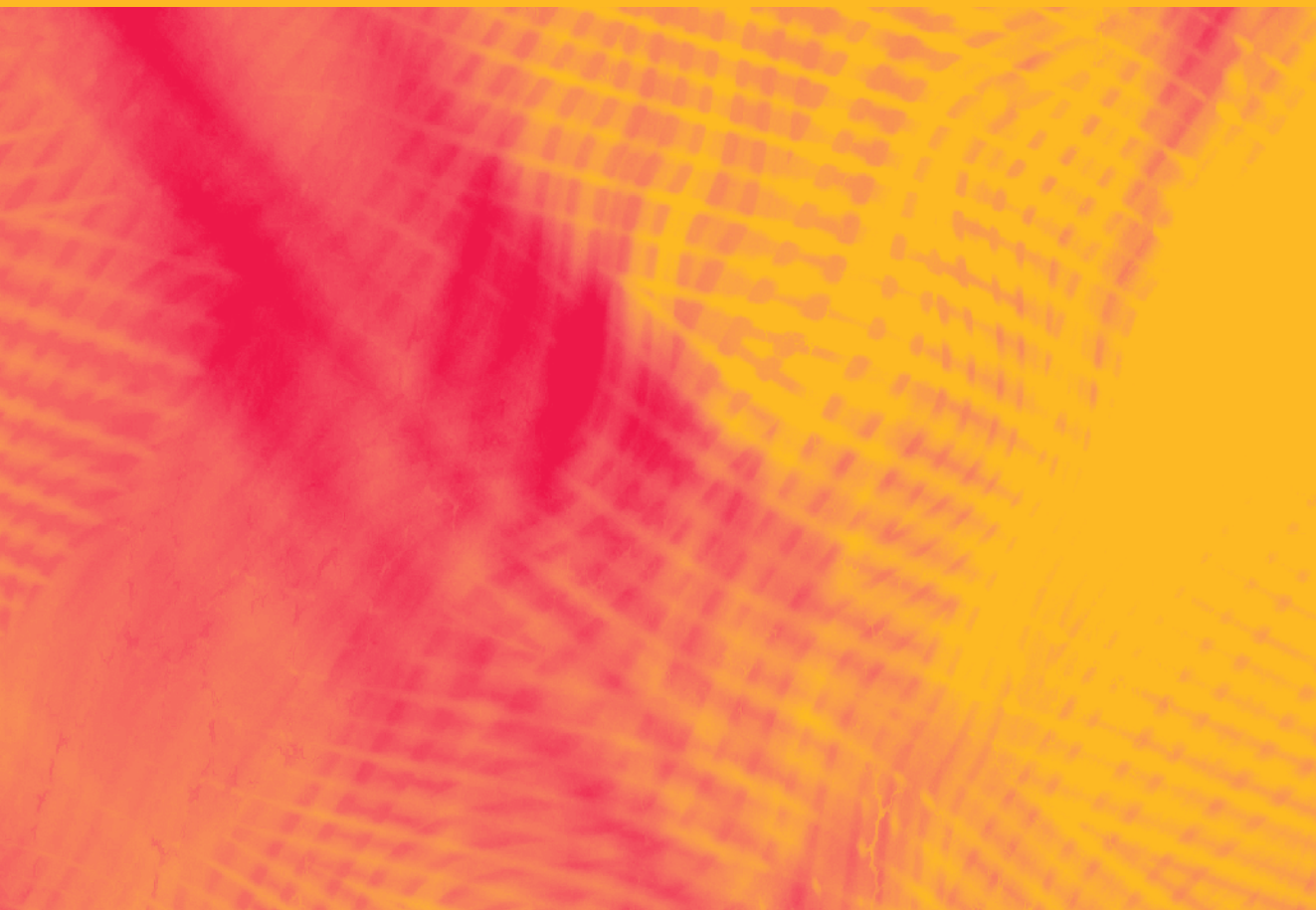# Literacy in Early Childhood and Primary Education

(3-8 years)

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Geraldine Hayes, Thérèse McPhillips, Jackie Marsh,
Maura O'Connor, Gerry Shiel.

Literacy in Early Childhood and Primary Education

(3-8 years)

Commissioned research report

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Reading Note

Readers should note that this report is one of three research papers published in 2012 in support of the development of a new primary language curriculum, as Nos. 14, 15, and 16 in the NCCA's Research Report Series (ISSN 1649-3362):

- **Oral Language in Early Childhood and Primary Education (3-8 years)** Drs. Gerry Shiel, Áine Cregan, Anne McGough and Peter Archer

- **Literacy in Early Childhood and Primary Education (3-8 years)** Drs. Eithne Kennedy, Elizabeth Dunphy, Bernadette Dwyer, Geraldine Hayes, Thérèse McPhillips, Jackie Marsh, Maura O'Connor and Gerry Shiel

- **Towards an Integrated Language Curriculum for Primary Schools (3-12 years)** Dr. Pádraig Ó Duibhir and Prof. Jim Cummins

In recognition of the many important links between their subject matter, especially between the Oral Language and Literacy papers, a measure of cross-referencing has been brought to the reports. This has been achieved through:

- a cross-referencing table, included as Appendix C, showing where corresponding or related material appears in the companion report/s

- the inclusion of embedded hyperlinks in the Portable Document Format (PDF) of the reports.

The three reports are also published in Portable Document Format (PDF) on the NCCA website at: http://www.ncca.ie along with a series of podcasts of key messages from the reports.

Acronyms

ADHD	Attention Deficit Hyperactivity Disorder
AK	Alphabet Knowledge
BICS	Basic Interpersonal Communication Skills
CALP	Cognitive Academic Language Proficiency
CLIL	Content and language integrated learning
CORI	Concept Orientated Reading Instruction
CTOPP	Comprehensive Test of Phonological Processing
DEIS	Delivering Equality of Opportunity in Schools
DES	Department of Education and Skills (formerly Department of Education and Science)
DfES	Department for Education and Skills (UK)
DfEE	Department for Education and Employment (UK)
DCSF	Department for Children Schools and Families (UK)
EAL	English as an Additional Language
EBD	Emotional Behavioural Disorders
ELLs	English language learners
EMT	Enhanced Milieu Teaching
EPPE	Effective Preschool and Primary Education
FORI	Fluency Orientated Reading Instruction
GLD	General Learning Disabilities
ICTs	Information and Communication Technologies
IEP	Individual Education Plan
IRA	International Reading Association
IRE	Initiation-Response-Evaluation model
NAEYC	National Association for the Education of Young Children
NCCA	National Council for Curriculum and Assessment
NCSE	National Council for Special Education
NELP	US National Early Literacy Panel
NICHHD	National Institute of Child Health and Human Development
NLS	New Literacy Studies
OECD	Organisation for Economic Cooperation and Development
ORL	Oral Recitation Lesson
ORIM	Opportunities Recognition Interaction Models
PA	Phonological Awareness
PDD	Pervasive Developmental Disorders
PIACC	Programme for International Assessment of Adult Competencies
PISA	Programme for International Student Assessment
PIRLS	Progress in Reading Literacy Study
PSEC	Primary School English Curriculum (1999)
QtA	Questioning the Author
QARs	Question Answer Relationships
REAL	Raising Early Achievement in Literacy
RRSG	Rand Reading Study Group
SEN	Special Education Needs
SES	Socioeconomic Status
SLD	Specific Learning Disabilities
SSP	School Support Programme
TEACCH	Treatment and Education of Autistic and Related Communication-Handicapped Children
VAKT	Visual Auditory Kinaesthetic Tactile
ZPD	Zone of Proximal Development

Contents

E XECUTIVE

S UMMARY

DEFINING LITERACY

It is important to consider definitions of literacy across the life span of the individual from 'womb to tomb' (Alexander, 1997). Definitions of literacy should encompass the cognitive, affective, socio-cultural, cultural-historical, creative and aesthetic dimensions.

Three important international assessment initiatives, the Programme for International Student Assessment (PISA), the Progress in International Reading Literacy Study (PIRLS) and the Programme for International Assessment of Adult Competencies (PIACC) all emphasise constructivist interactive processes of reading, where readers actively construct meaning from text. They recognise the importance of literacy in empowering the individual to develop reflection, critique and empathy, leading to a sense of self-efficacy, identity and full participation in society. The PIRLS definition also refers to the development of a community of readers within schools, where social interactions around text encourage both the development of habits of mind (Brunner & Tally, 1999) and positive attitudes towards reading within the classroom learning ecology (Brown & Deavers, 1999; Luckin, 2008; Reinking & Bradley, 2000; Zhao & Frank, 2003).

The definition espoused by the Department of Education and Skills (DES) in the *National Strategy to Improve Literacy and Numeracy Among Children and Young People 2011-2020* (DES, 2011), notes that:

> *literacy includes the capacity to read, understand and critically appreciate various forms of communication including spoken language, printed text, broadcast media, and digital media.*
> (DES, 2011, p. 8)

While the definition is broad, critically, it does recognise the importance of conceptualising literacy to include reading, writing, communication and oral language in both print-based and digitised

formats. Given the prevalence of digital media, including the internet, in our daily lives, it is appropriate that this definition encompasses the new literacies framework (Leu et al.,2004) and hence presents a broad conceptualisation of literacy.

The definition in *Aistear: the Early Childhood Curriculum Framework* (National Council for Curriculum and Assessment, (NCCA), 2009) clearly recognises the importance of multiple modes and multiple representations in literacy. It also defines literacy from a semiotic position to include linguistic and non-linguistic forms of communication.

Given that the age range for the review is 3-8 years, the concept of emergent literacy is particularly significant. Historically, emergent literacy reflects a move from a 'readiness' perspective popular in the 1960s and 70s to a developmental perspective. Whitehurst and Lonigan (1998, p. 849) define emergent literacy as 'the skills, knowledge and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing'. In addition, *Aistear* (NCCA, 2009, p. 54) views emergent literacy as developing through 'play and hands-on experience [where] children see and interact with print as they build an awareness of its functions and conventions'. It is also important to take account of the interconnectedness of oral language and reading and writing within the emergent literacy phase. Likewise, Vygotskian theories related to language acquisition, symbolism and socio-cultural aspects of literacy development are also important to consider.

THEORETICAL PERSPECTIVES

An historical overview of a broad range of theoretical perspectives on young children's early literacy development indicates three paradigm shifts – from behaviourist to cognitive to socio-cultural perspectives.

In the case of a number of perspectives we see how the associated theory shaped what are now generally accepted maxims about literacy development. For example, arising from the work of cognitive psychologists there is now widespread acceptance of the idea that *phonological awareness* is a critical aspect of early literacy development. The emphasis placed on reading for meaning is seen to arise from the psycholinguistic perspective. Metacognitive theories emphasise the role of metacognitive processes in reading, writing and spelling while cognitive apprenticeship models have led to the emphasis that is placed on children developing problem-solving skills in literacy-related activity through the assistance of a more knowledgeable other. Socio-cultural theories of literacy are identified as those which emphasise the role that culture plays in the development and practice of literacy, the social nature of learning (including observing how others construct meaning within literacy practices, and in some instances internalising understanding of those processes), and the way in which literacy practice is located within wider social, economic and political contexts. Critical literacy is seen to empower children in understanding how texts may influence and change them as members of society.

Making meaning using various modes is identified as part and parcel of young children's communicative practices. Examples of modes included children's use of gesture and their construction and use of images. The strategic ways in which young children use modes and their purposeful intent in selecting particular modes for particular purposes emphasised how multimodality makes explicit the ways in which power and agency are exercised by children in their meaning-making in relation to texts.

Finally, theoretical perspectives emphasising the key role in literacy learning of children's motivation, engagement and sense of self efficacy are reviewed. Disposition and a sense of being able emerge as crucial components in young children's literacy development.

STAGES OF LITERACY DEVELOPMENT

Research on the acquisition of literacy was examined, with specific reference to the key components including word recognition, vocabulary development, fluency, comprehension and the development of writing and spelling as they relate to processing of print and digital texts.

Early models of the reading process give a unique perspective on reading and emphasise an information processing approach. An interactive model of reading incorporates elements of both bottom-up and top-down approaches and proposes to describe and explain how the perceptual and the cognitive processes in reading interact (Rumelhart, 1994). The stages of word recognition outlined by Frith (1985) and the phases of reading development outlined by Ehri (1985) are described.

Vocabulary knowledge is a core component in language proficiency as it relates to literacy development. Attention is drawn to individual differences in vocabulary development among young children and research by Neuman (2011) focuses on the need to place vocabulary at the forefront of early literacy.

Reading fluency is dependent on the development of several different skills (Leppänen et al., 2008). Fluency in reading also supports the development of reading comprehension, however the relationship between the two is complex. Influencing factors include skill in word recognition and the orthography of the language in question.

The work of Pressley and other researchers has contributed to the understanding of the importance of reading comprehension. Although this body of research does not specify stage models of development, the reader could be conceptualised as a 'builder' or 'fixer' of meaning (Pearson, 2009), as an 'assembler' drawing on

Kintsch's situational model (Kintsch 1998), and as a 'responder' in line with reader-response theory (Rosenblatt, 1978). A wide range of reading strategies can be taught using a gradual release of responsibility model (Pearson & Gallagher, 1983).

The development of writing is outlined, beginning from the early stages of emergent writing involving symbolic drawings arising from play and social interaction to more independent expression. Children gradually use their developing orthographic knowledge to represent their thoughts and ideas. The importance of using a writing process approach is clearly outlined.

A subsequent section on spelling development can be read in conjunction with the earlier section on word recognition and the phases of development of reading as there is commonality across the phases outlined. Handwriting in general, and cursive writing in particular, is identified as being important in supporting the generation of well-structured written text and also affects fluency of writing.

Children are active users of technology in their everyday lives across a range of media, and this can be described as both creative and active. It also offers potential for children to engage as *'produsers'* (Bruns, 2006) as they create new texts. Chapter Three examines the importance of ensuring continuity between home and school by embedding these developing digital literacies among teachers and children in early years settings and schools (Marsh, 2010c).

LITERACY PEDAGOGY

Our consideration of literacy pedagogy begins with a review of meta-analyses of research into effective literacy instruction that have been influential in shaping policy and practice internationally. These studies represent an important body of knowledge on what we know about some of the essential skills and strategies that are pivotal to

literacy development. They are however, not without their limitations. The United States National Reading Panel Report (National Institute of Child Health and Human Development (NICHHD), 2000), for example, has been criticised for its narrow focus and emphasis on experimental or quasi-experimental research only, and its lack of attention to important qualitative research. Furthermore, it did not examine the role of motivation and engagement in literacy, the teaching of writing or the role of parental or family involvement in children's literacy development.

Skills and strategies that are essential to effective literacy teaching in the early years include phonological awareness, phonics (for reading/ spelling), vocabulary, fluency, comprehension and writing (composition). It is important to distinguish between skills which are constrained and unconstrained (Paris, 2005). Once mastered, constrained skills (e.g. phonological awareness, phonics, spelling, grammar, punctuation) contribute little to literacy development across the life span. In contrast, unconstrained skills (e.g. oral language, vocabulary knowledge, comprehension, writing) continue to develop and contribute to enhanced literacy development. It is especially important that unconstrained skills are given attention alongside the constrained skills in the early years' classrooms and that the emphasis is on reading and writing for meaning and communication from the outset so children's language skills and higher-order thinking skills are enhanced in parallel with the basic skills. This is particularly important for children in DEIS schools who, because they often struggle with the basic skills, may receive instruction that is more focused on those skills than on instruction that contextualises skills and provides opportunities for them to develop the more academic style of language utilised in schools.

Skills and strategies are best embedded within a research-based balanced literacy framework that provides opportunities for children

to develop the essential skills in contexts that are meaningful, developmentally appropriate and which capitalise on the 'funds of knowledge' (González, Moll & Amanti, 2005) that children bring from home. In reading, these contexts include, teacher read-alouds in a range of genres, make-believe play, shared reading of texts, guided reading, reading workshops and opportunities for independent reading of self-selected texts. In writing, these contexts include opportunities for play, emergent writing, shared and interactive writing and writing workshops. Creating a culture of reading and writing for pleasure and information is important in cultivating a positive disposition to literacy. This can be enhanced through provision of a broad range of reading materials (print and digital) which children can also bring home to share with family, providing opportunities for children to collaborate and engage in high-level discussion about their books and the texts they are creating; all of which promote the social dimension of literacy. A cognitively challenging balanced literacy framework such as this creates opportunities for children to develop their conceptual knowledge, their creativity and their imagination and to reach an understanding of literacy as a tool to be harnessed for fulfilment of personal goals both within and outside school.

Given that there is no one best method for teaching literacy, we highlight a range of strategies with which all teachers should be familiar and we emphasise the depth of expertise required by teachers. We also highlight the need for instruction to be guided by a range of assessment procedures (formative and summative, see Chapter 6) to enable teachers to differentiate and meet the needs of the children in their classes. The importance of teaching in ways that are motivating and engaging for children, and in ways that provide opportunities for them to experience optimum challenge is highlighted. We also identify the importance of building on success in meeting challenges and creating opportunities for children to

develop their agency and sense of self-efficacy. The importance of scaffolding metacognition to the conditional level is also noted. When children have this level of knowledge about strategies they know why a particular strategy is useful and so can call on it when needed as they are engaged in suitably challenging tasks. Using strategies independently to problem-solve builds children's persistence and academic resilience.

CONTEXTS FOR TEACHING LITERACY

Disadvantage and literacy

In a survey of reading standards in disadvantaged schools in Ireland in 2003, almost 30% of students in grades 1, 3 and 6 achieved scores at or below the 10th percentile on a nationally standardised test. Internationally, a number of evidence-based interventions have been proposed to address low levels of literacy among children in disadvantaged circumstances. Some of these have focused on prevention; others have been put in place after formal reading instruction has begun. These interventions present a set of important principles and strategies for teaching literacy including allocation of sufficient time to literacy instruction, implementation of a balanced literacy framework with emphasis on meaning-based instruction, use of flexible and dynamic grouping of children, development of classroom environments with large numbers of real books matched to stages of development and interest, and use of a metacognitive approach to strategy instruction. Sharing of assessment data between teachers, cohesion between class and support programmes, ongoing links between home and school, and access to customised, on-site professional development are also highlighted.

As children in disadvantaged schools often struggle with basic skills, research indicates they often receive qualitatively different and less motivating instruction to their more privileged peers, including a

slower pace of instruction, fewer opportunities to read, write and discuss extended text, a heavier emphasis on basic skills and a greater likelihood of being withdrawn from the classroom (Duke, 2001). An over-emphasis on basic skills is identified as being particularly problematic if it occurs in the absence of meaning-oriented instruction (Knapp, 1995).

Special education needs

Evidence from international studies and insights into effective practices which promote inclusion for all children suggest that the principles of good teaching are essentially the same for all children, including those with special educational needs. However, while teachers may need to make 'normal' adaptations to teaching methods in class teaching for the majority of children, a greater degree of adaptation may be required for those with more significant learning needs (e.g. severe dyslexic difficulties). Hence, some learners with special needs may require high levels of practice, more examples of a concept, and greater error-free learning to master key skills. Others may benefit from intensive multi-sensory learning opportunities. This work can be supported by the use of a three-tiered approach to assessment, up to and including the specification of learning targets as part of an individual educational plan (IEP).

English as an additional language: EAL

In recent years, there has been a significant increase in the proportion of children in preschool and primary school classrooms for whom English is an additional language. Very often, these children speak in their first language at home, and hence may have insufficient English (or Irish) to fully participate with their peers in class. One approach to ensuring that children develop adequate vocabulary and conceptual knowledge in the early years is to provide instruction in both the language of the home and in the language of instruction at

school. However, it is recognised that this is not always possible in instructional or assessment contexts. In such circumstances, there may be no alternative but to work intensively on building EAL children's oral language capacity in the language of instruction, up to the level required for success in literacy and in other areas of the curriculum. This level, called cognitive academic language proficiency or CALP by Cummins (1991, 2000), is different from, and takes longer to develop than, basic interpersonal communication skills (or BICS).

The question of when to introduce formal phonics teaching to EALs has been addressed in the literacy curricula in different jurisdictions. The Finnish curriculum for L2 learners suggests that the main emphasis in grades 1 and 2 (7-8 years) should be on the comprehension, repetition and application of what one has heard and on practicing oral communication. Reading is used to support oral practice through listening and speaking. Instruction is integrated into content and themes that are within the children's experience. However, it is less clear that EAL learners can make a seamless transition from oral language to reading in the case of more orthographically complex languages such as English.

There are many challenges related to assessing the language and literacy of EAL children. Where a child has only limited competence in the language of instruction, bilingual support in assessment situations is recommended (e.g. Espinosa & Lopez, 2007). There is strong evidence in the literature of a long history of disproportionate representation of students with EAL in special education, especially in the United States (Artiles, 1998; Dunn, 1968; Orfield, Losen & Edley, 2001). This is most pronounced among children with mild and moderate general learning difficulties, and may be due to the use of language-based tests in making diagnoses. It presents a view that large numbers of EAL children have learning disabilities, when in fact they may not. (Echevarria, Vogt & Short, 2008). The use of site-based

teams that provide EAL children with supplementary instruction in the mainstream setting has proven effective in reducing the number of referrals and special education placements (Fuchs, Fuchs & Bahr, 1990; Powers, 2001; Ysseldyke & Marston, 1999).

EAL children can be supported in reading texts in English by engaging them intensively in a range of before-, during- and after-reading activities.

ASSESSMENT OF LITERACY

Assessment is now regarded as an essential aspect of teaching and learning, in both preschool and primary school settings. Six aspects in the assessment of literacy were considered: the roles of assessment for learning and assessment of learning in assessing early years literacy development; the aspects of early years literacy that should be assessed; the formal and informal assessment tools that can be used to assess literacy; frameworks that can be used to support teachers in conceptualising literacy assessment and summarising outcomes of assessment; the assessment of children for whom English is an additional language; and approaches to using assessment data to inform planning at teacher and school levels.

In considering the role of assessment in early childhood settings, a distinction was made between assessment for learning (formative assessment) and assessment of learning (summative assessment). It was argued that most assessment at preschool and infant levels should be formative and should occur in authentic literacy contexts such as book reading, or early writing. The importance of observation as an assessment tool was emphasised. The involvement of parents in gathering assessment information was also highlighted.

Aspects of literacy that should be assessed in early childhood settings are oral language, concepts about print, dispositions (including

motivation and engagement), vocabulary/academic language, alphabetic knowledge, reading fluency, comprehension, spelling and writing. The importance of recording outcomes arising from informal assessments in these aspects of literacy was stressed, and the value of recorded outcomes in planning instruction was noted.

Assessment tools identified as particularly relevant for early education settings include: narrative or story approaches, conversations and conferences with children, children's drawings and their written work, interviews, running records, miscue analysis, oral retelling, comprehension questions, cloze assessment, reading and writing conferences, and writing portfolios.

Parallel assessment frameworks for reading and writing were described, and different approaches to reaching and recording an overall estimate of a child's performance in reading and writing were examined. Specific tools that were considered for this purpose included the United States Common Core State Standards, the Drumcondra English Profiles and the Early Years Profile used in statutory assessment of children aged 5 years in England.

In reviewing literacy assessment of EAL children, the importance of taking the home literacy environment into account was noted. The need to understand how and in what contexts a child uses different languages was also stressed. It was noted that the research literature recommends that, if possible, EAL children should be assessed at the same time in both languages.

The value of sharing school–level data as a feature of effective schools in literacy was noted, as was the value of teachers within and across grade levels collaborating to arrive at a shared understanding of learning standards as they applied scoring rubrics or other assessment tools to children's oral and written work samples.

ORAL LANGUAGE AND LITERACY

We examined links between oral language and literacy, and, in particular, ways in which oral language can support literacy development and vice versa. A distinction was made between oral language as a skill upon which future success in reading (and writing) is based, and oral language as a context for learning and practicing reading skills. The former view highlights the links between oral language and the development of phonological processing and reading comprehension skills. The latter stresses the important role of the carer/teacher in promoting high levels of cognitive interaction, engaging children in extended oral language discourse and scaffolding them as they deploy reasoning strategies and engage in perspective-taking.

The literature indicates that, whereas early oral language proficiency is highly predictive of acquisition of constrained skills such as letter-name knowledge, concepts of print, phonemic awareness and oral reading fluency in the junior classes in primary school, its effects on unconstrained skills such as vocabulary knowledge and reading comprehension is less clear. Indeed, it may not be until fourth class or later that the real effects of work on developing vocabulary knowledge (particularly academic vocabulary) and knowledge of discourse (e.g. narrative discourse) have a significant impact on reading comprehension. This may be because the texts that younger readers encounter in their early reading depend more on decoding knowledge and understanding of individual word meanings than on higher-level language skills. Nevertheless, research evidence supports the teaching of oral language and reading comprehension from preschool onwards, so that children can bridge the gap between basic reading texts encountered in early reading instruction, and more complex texts that they encounter from third or fourth class onwards, not only in English classes, but across the curriculum.

The research literature has identified a number of approaches to teaching reading comprehension that draw heavily on oral language, including discussion. For example, classroom activities emphasising the teaching of reading comprehension strategies have been shown to have a high or moderate impact on reading comprehension. It is not clear how these strategies impact on oral language since it is generally not possible to separate out the effects of the strategy from the effects of language usage or development. This arises because most studies of reading comprehension examine the effects of strategy instruction on reading comprehension rather than on oral language as well.

Another type of reading comprehension instruction for which there is somewhat limited evidence of effectiveness is discussion-based comprehension strategies – that is, approaches to teaching reading comprehension that depend heavily on discussion among children, including structuring discussion questions so that they require children to think deeply, asking follow-up questions that facilitate discussion, and having children lead discussion groups. Despite limited evidence from such studies (e.g. Shanahan et al., 2008), mainly due to methodological limitations, most researchers recognise the value of using discussion-based approaches such as Reciprocal Teaching, Collaborative Reasoning, Questioning the Author and Accountable Talk to foster children's engagement in discussing texts. As with instruction in specific comprehension strategies, effective discussion approaches require modelling by the teacher, direct explanation, marking (where the teacher responds to a child's question or answer by highlighting a particular aspect of the text), and verifying and clarifying children's understandings.

Research on reading development confirms that two clusters of oral language abilities – phonological awareness on the one hand, and general language abilities (e.g. vocabulary knowledge, syntactic

knowledge) on the other – are predictive of later reading ability. When delays in language development occur, they are likely to impact negatively on one or both aspects of language, and hence on reading literacy. Children with Down syndrome develop oral language in the normal way until around 24 months, and may then experience significant receptive and productive delays, which in turn may delay reading. Children with autism may not benefit from the levels of social interaction that sustain language development and hence may struggle to acquire reading skills. Children with concurrent receptive and expressive delays may also experience severe reading impairment. Early intervention is strongly recommended for these and other at-risk groups so effects on reading development can be minimised.

Young children's writing (composition) development can also be supported by engaging them in language-based activities. For example, instruction in identifying the structure of text genres (which is sometimes embedded in reading instruction) can also form a part of the preparation of writing. Similarly, children can describe and explain their own written texts in the same way that they explain texts they have read.

LITERACY ACROSS THE CURRICULUM

Inquiry-based learning was highlighted as a model that can be deployed to teach literacy across the curriculum. An example of an inquiry-based model is the Seeds of Science/Roots of Reading programme. The programme seeks to capitalise on the development of cognitive processes that are common to both reading and science. These include making predictions, activating prior knowledge, making connections and drawing inferences. Text is used to support investigation. Vocabulary is presented in a multi-modal fashion, with a strong emphasis on conceptual development through discourse.

Concept-Oriented Reading Instruction (CORI) is another inquiry-based model which seeks to teach critical science concepts while also incorporating reading strategy instruction, pupil child's choice, intrinsic motivation, interest and self-efficacy. The CORI model involves hands-on experiences and collaboration between children. For EAL children, content and language-integrated learning has been identified as a useful approach. This essentially combines the teaching of language objectives and content objectives within lessons across disciplines. In addition, the literature shows that the following broad principles support the development of literacy in children for whom English is a second language: oral language development in the context of social interaction, where interpersonal skills develop; meaningful use of language in a variety of literacy contexts; and engagement in comprehension strategies that build oral language discourse skills

Literacy learning can also involve opportunities for drawing on the creative processes involved in art, music and drama. For example, Cremin et al. (2006) demonstrated how drama can provide children with an opportunity to respond to text using multiple modalities, and give them a springboard for creative writing. Children can improvise, taking on the roles of characters in stories they have read, identifying both their cognitive and affective dimensions. This, in turn, can lead to creative writing as children adopt the roles of their favourite characters. Another effective approach is writing composed in drama, where children move seamlessly from writing into drama and back again.

INTRODUCTION:

CONTEXTUAL

FRAMEWORK

This review focuses on how research can inform development of an inclusive early literacy curriculum. Recent concerns about standards in reading literacy (e.g. DES, 2011), the teaching of literacy (DES, 2005a; 2010; Eivers et al., 2010; Eurydice, 2011), the currency of the 1999 English curriculum (NCCA, 2011), new research findings on teaching and learning literacy (see below) and concerns about the performance of Irish students on international tests of literacy have provided an impetus for curriculum renewal.

Internationally, there has been considerable interest in identifying ways in which to improve literacy. This has been evidenced by increased government interest and the development of policies aimed at improving literacy (e.g. No Child Left Behind/Race to the Top in the United States, the National Literacy Strategy in England), and an increase in the frequency with which literacy skills have been assessed in large-scale testing initiatives. In some countries, these assessments have been 'high stakes', with principals and teachers being held accountable for performance levels.

In Ireland, a number of studies have looked at the implementation of the Primary School English Curriculum in schools generally, as well as in schools designated as disadvantaged (see below). In addition, a programme of national assessments has been implemented at primary level. As recently as 2009, a new early childhood curriculum framework (*Aistear*; NCCA, 2009), relevant to early education in the home, in preschool settings and infant classrooms, was introduced. In July 2011, the Department of Education and Skills launched the *National Strategy to Improve Literacy and Numeracy Among Children and Young People 2011-2020* (DES, 2011), which has implications for a broad range of activities including teacher education, curriculum revision, the teaching of literacy and assessment at both school and national levels.

STANDARDS IN READING LITERACY

The outcomes of PISA 2009 (OECD, 2010; Perkins et al., 2010) have drawn attention to standards of literacy in Irish schools. PISA, an international study that is administered to 15-year olds every three years, involves over 60 countries, including all member countries of the OECD. In earlier cycles of PISA, students in Ireland achieved mean scores on reading literacy that were significantly higher than the corresponding OECD average scores. However, in 2009, performance was not significantly different from the OECD average. Further, Ireland's ranking in reading literacy dropped from 5th to 17th among countries participating in both PISA 2000 and PISA 2003, while the proportion of low-achieving readers (those with scores at or below Proficiency level 1) increased from 11% in 2000 to 17% in 2009. While the size of the drop in performance in Ireland has been disputed (Perkins et al., 2010), it seems that students in Ireland no longer perform at the levels evident back in 2000. Among the reasons for this are: an increase from 0.9% to 3.6% in the proportion of students who do not speak the language of instruction at home; an increase in the proportion of students with special educational needs in ordinary classrooms; fewer students leaving school early; and diminished interest among students in the PISA assessment (for example, more items were skipped in 2009 than in earlier cycles, and fewer students completed all test items despite having adequate time in which to do so. The scaling of PISA has been criticised on the basis that it overstates changes in performance (Perkins et al., 2010).

National assessments of reading literacy were conducted at fifth class in primary schools in 1998, 2004 and 2009. No changes in overall reading performance were observed across these assessments, even though the demographic composition of the population changed over time, and a revised Primary School English Curriculum was implemented from 2000-01 (Eivers et al., 2005, 2010). In 2009,

national assessments were conducted nationally at the second and sixth classes. These provide a benchmark against which to compare performance in future assessments. However, they do not allow for comparison back to the 2004 (and earlier) assessments. An innovative aspect of the 2009 assessment was the introduction of proficiency levels in reading literacy. Again, these will provide baseline data against which to compare the performance of students at different levels of ability in future assessments.

QUALITY OF TEACHING AND LEARNING

A review of the implementation of the 1999 Primary School English Curriculum by the NCCA (2005) identified both positive and negative aspects. The positive aspects reported included improvements in the teaching of reading and children's engagement in reading. The negative elements included concerns about the teaching of oral language and the teaching of writing as a process, differentiation, the structure of the curriculum (in particular, the relationship between strands and strand units), and inadequate time for literacy.

Also in 2005, the Inspectorate of the (then) Department of Education and Science (DES, 2005) published an evaluation of the implementation of the PSEC. The evaluation was based on focused inspections of the teaching of English in 59 classrooms in 26 schools, as well as focus group interviews with the teachers in those schools. The report acknowledges that 'significant progress has been achieved in the implementation of the English curriculum in three quarters of schools'. The main areas requiring attention were the development of appropriate detailed whole school plans, the coherence between programmes implemented by learning support and classroom teachers, the range of assessment tools linked to instruction, and differentiation designed to address individual children's needs. As in the NCCA review, the teaching of writing using the process approach was identified as being weak. Other gaps and weaknesses in

instruction included the teaching of skills in a meaningful context, the development of higher-order thinking skills, the critique of texts and the emotional and imaginative development of the child. A significant minority of teachers was identified as having trouble with the teaching of reading in general.

NATIONAL STRATEGY TO IMPROVE LITERACY AND NUMERACY 2011-2020

In July 2011, the *National Strategy to Improve Literacy and Numeracy among Children and Young People 2011-2020* was published by the Department of Education and Skills. Key aspects of the strategy included:

- The revision of the Primary School English Curriculum, to include more explicit learning outcomes.

- A recognition of the importance of literacy across the curriculum.

- Greater attention to the development of literacy in preschool / early care settings, including increased standards for caregivers in these settings.

- The establishment of national targets for literacy (and numeracy), and the need for schools to establish their own achievement targets, based on their standardised test results.

- Increased accountability as schools must report aggregated results to the Boards of Management and the DES.

- A restructuring of initial teacher education to include a greater focus on literacy (and numeracy) and mandatory professional development for teachers.

- Building the capacity of school leaders to become agents of significant change.

- Provision of greater levels of support to parents to develop their children's literacy skills.

- Provision of strong supports in literacy to children who are at greatest risk (e.g. disadvantaged children, children for whom English/Irish is not the language of instruction; children with special educational needs).

THE 1999 PRIMARY SCHOOL ENGLISH CURRICULUM

As noted earlier, teachers were challenged to understand the structure of the Primary School English Curriculum. Our group has identified a number of other issues with the curriculum that might be considered in the course of its revision:

- The need to draw on an emergent literacy perspective to the development of early literacy skills, including attention to the value of socio-dramatic/make-believe play, shared book reading and emergent writing as pathways to literacy.

- The need for children to establish a strong academic vocabulary from an early age, including attention to conceptual categories and connecting words.

- The need to incorporate a research-based balanced literacy framework where appropriate attention is given to both higher- and lower-order skills and strategies within meaningful contexts and according to the stage of development and needs of the children.

- The need to specify the components of language that are associated with children's development of phonological processes (phonemic awareness, decoding), and those that are important for comprehension, acknowledging that the latter need to be developed from the outset, even though they are less critical for success in word reading.

- The need to clarify the relationship between background knowledge, vocabulary knowledge and reading development.

- The need to provide a strong rationale for the process approach to writing, striking an appropriate balance between process and product.

- The need to provide a framework for teaching reading comprehension strategies, that includes attention to flexible strategy usage and relevant conditional knowledge (metacognition) in both print and digital contexts.

- The need to include motivation and engagement as key aspects of literacy development.

- The need to develop positive dispositions towards literacy from the outset.

- The need to elaborate on other aspects of literacy not fully described in the Primary School English Curriculum (e.g. dialogic storybook reading, the alphabetic principle, reading fluency, the writing workshop, guided reading).

It is recognised that these changes will need to occur in the context of other changes within the Irish educational system, particularly in relation to professional development. According to the Teaching Council (2011) the latter includes:

- the development of a comprehensive preschool system and appropriately prepared educators

- emerging perspectives on teachers' professional development across the lifespan

- stronger collaboration between colleges and schools in providing professional development

- inquiry-based models of teacher professional development

- the development of professional learning communities in schools, and an enhanced role for teacher coaching (feedback) as part of professional development.

In addition, there have also been some advancements internationally in relation to the development of standards for professional development in literacy (IRA, 2010; NAEYC, 2009). These standards provide guidelines in relation to the content knowledge and pedagogical content knowledge important for high-quality literacy instruction.

Given that a key emphasis in early childhood education is the recognition of the holistic nature of early learning and development, it is important that the definitions of literacy adopted in curricula reflect this understanding. How literacy is currently conceptualised is explored in the opening section of this review.

Anderson, Moffatt and Shapiro (2006) point out how at the turn of the century researchers had moved from a concern with how individual children acquire language (and literacy) to a focus on the circumstances in which children develop/acquire language and literacy. This shift is seen as a response to increasing evidence of the central importance of the socio-cultural context for language and literacy learning. Hill and Nichols (2006) chronicle and discuss the various theoretical perspectives that shape ideas about children learning to be literate. Over the last two decades predominantly socio-cultural (cultural-historical) and increasingly critical perspectives dominate (Vygotsky, 1978; Rogoff, 1990). Currently, the semiotic perspective is seen as inclusive of the various influences on children's literacy development (e.g. Hill & Nichols, 2006). Chapter 2 presents an historical overview of many of these theoretical perspectives beginning with early theories of literacy learning such as the psycholinguistic perspective.

Chapter 3 examines the research on stage models dealing with various aspects of literacy development including emergent literacy, word reading, spelling, writing and handwriting and discusses how these stages are defined with reference to key indicators of learning.

Chapter 4 presents syntheses of the research on effective pedagogy on each of the essential literacy skills and draws on lessons learned about pedagogy from the literature on effective schools and effective teachers of literacy. The development of literacy in early childhood takes place across a range of settings: home, preschool and school and is best developed through a range of developmentally appropriate pedagogical approaches. The terms educator, parent, and teacher are used to describe the various adult roles employed to support and promote the development of emergent literacy to the later development evident in children aged 8, in each of these settings.

Chapter 5 builds on the previous chapter and considers pedagogical implications for the literacy learning of children in a range of particular contexts. It examines ways to support children learning English as an additional language including recognizing the child's L1/heritage language (NCCA, 2006; Bussye, Castro & Peisner-Feinberg, 2010) and how strategies outlined earlier can be modified, based on children's assessed needs. Approaches which combine content and language teaching, and build academic language are noted as being particularly effective (e.g. Gersten et al. 2007). In relation to children from low-SES communities, ways in which discontinuities between home and school discourse (Cregan, 2007) can be addressed, while utilising the 'funds of knowledge' of communities (González, Moll & Amanti, 2005) are considered. Given that children in disadvantaged contexts often encounter qualitatively different and less motivating instruction (Duke, 2001; Knapp, 1995), ways of accelerating and sustaining literacy

development, while also providing a cognitively challenging and engaging curriculum that cultivates a positive disposition to literacy are highlighted (Kennedy, 2008; Scott et al., 2009).

Drawing on national and international research, Chapter 6 proposes a broad range of formative and summative assessment practices which when used appropriately can inform literacy planning and teaching at both school and classroom levels and lead to enhanced learning outcomes for all children aged 3–8.

On the one hand, oral language plays a crucial role in developing children's early literacy skills. On the other, activities in which children engage in reading and writing can support the development of oral language, and teachers can also play a crucial role in this respect (Gavelek et al., 2000). In Chapter 7, specific instructional approaches outlined in earlier sections are described in terms of how teachers can maximise their impact on oral language development as well as on early reading and writing development. Particular emphasis is put on interactive instructional approaches.

Chapter 8 examines how effective literacy practices outlined earlier can be harnessed to develop literacy across the curriculum and considers the contribution of an additional language to young children's literacy development. In addition to demonstrating how strategies can be extended across a range of subjects (Wright & Neuman, 2009), this section presents some inquiry-based models designed to foster content learning and literacy (e.g. Guthrie et al., 2004; Cervetti et al., 2006) and considers the role of the arts in developing young children's language and literacy, imagination, creativity, 'voice', autonomy and agency, (Grainger, Goouch & Lambirth, 2005).

CHAPTER 1:

DEFINING LITERACY

How does the research define literacy for children aged 3-8?

The development of literacy occurs across the lifespan of the individual from 'womb to tomb' (Alexander, 1997, 2006). It is important to view literacy across such a lifespan developmental framework and in turn to consider and conceptualise a definition of literacy from a broad and comprehensive viewpoint while giving due cognisance to the crucial early years of literacy development. As such, the definitions of literacy reviewed in this section consider definitions of literacy across the life span from childhood to adulthood.

The Programme for International Student Assessment (PISA) conducted with students aged 15 years by the Organisation for Economic Co-Operation and Development (OECD) define literacy as

> *understanding, using, and reflecting on written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society.* (OECD, 2010, p. 37)

The Progress in International Reading Literacy Study (PIRLS) conducted with fourth grade students define literacy as the

> *ability to understand and use those written language forms required by society and/or valued by the individual. Young readers can construct meaning from a variety of texts. They read to learn, to participate in communities of readers in school and in everyday life, and for enjoyment.*
> (Mullis, Martin, Kennedy & Foy, 2007, p.103)

Both of these definitions, from comparative international studies, emphasise the constructivist interactive processes of reading where readers actively construct meaning from text (Anderson & Pearson,

1984; Chall, 1983; Ruddell & Unrau, 2004). Both PISA and PIRLS recognise the importance of literacy to empower the individual to develop reflection, critique and empathy, leading to a sense of self-efficacy, identity and full participation in society. The PIRLS definition refers to the development of a community of readers within school where social interactions around text encourage both the development of habits of mind (Brunner & Tally, 1999) and positive attitudes towards reading. Researchers (Brown & Deavers, 1999; Luckin, 2008; Reinking & Bradley, 2008; Zhao & Frank, 2003) have used the metaphor of the 'learning ecology' to describe the 'multiple realities' (Labbo & Reinking, 1999) and the complex, multilevel, dynamic, transactional interplay and interdependency, which is evolving rather than static, between multiple actors and multiple variables within the classroom learning ecology. The classroom learning ecology involves the classroom curriculum, teaching pedagogies, the relationship between children and teachers and children and their peers in a social learning environment. It also involves the relationships and social capital of the class teacher in his/ her relationships with their colleagues, with school administrators, with parents and care-givers within a wider school and social and political community. Finally, it involves the infrastructure, the physical setting, the availability of resources (such as computers, ICT and books) and the availability of technical ICT support.

In addition, the definition of literacy provided by the OECD Programme for International Assessment of Adult Competencies (PIACC) considers literacy as developing across a lifespan continuum to enable the individual to achieve their potential and to participate fully within their communities and in the wider society:

> *Literacy is the ability to identify, understand, interpret, create,*
> *communicate and compute, using printed and written materials*
> *associated with varying contexts. Literacy involves a continuum*

> *of learning in enabling individuals to achieve their goals, to*
> *develop their knowledge and potential, and to participate fully*
> *in their community and wider society.* (OECD, 2009)

This definition is consistent with the earlier definitions of literacy in PIRLS and PISA, and with the view that literacy extends well beyond printed text.

The definition espoused by the Department of Education and Skills (DES), in the National Strategy for Literacy and Numeracy (DES, 2011) notes that:

> *literacy includes the capacity to read, understand and critically*
> *appreciate various forms of communication including spoken*
> *language, printed text, broadcast media, and digital media.*
> (DES, 2011, p. 8)

While the definition is broad, critically, it does recognise the importance of conceptualising literacy to include reading, writing, communication and oral language in both print-based and digitised formats. The increasing prevalence of digital texts in our daily lives has led to calls in the literature for a re-conceptualisation and expansion not only of a definition of literacy but also of what it means to be literate in the 21st century (Flood and Lapp, 1995; Reinking, 1998). Given the prevalence of digital media, including the internet, in our daily lives it is important to consider a new literacies framework (Leu, Kinzer, Coiro, & Cammack, 2004) in broadening our conceptualisation of literacy. This framework reflects a broadening conceptualisation of literacy to include multi-literacies and multimodalities (Kress, 2010; Rose & Meyer, 2002), critical literacies' perspectives (Fabos, 2008) socio-cultural perspectives and social practices (Rueda, 2011a). *Aistear* (NCCA, 2009. p. 56) defines literacy as being:

> *more than having the ability to read and write. It is about*
> *helping children to communicate with others and to make sense*
> *of the world. It includes oral and written language and other*
> *sign systems such as mathematics, art, sound, pictures, Braille,*
> *sign language and music. Literacy also acknowledges the nature*
> *of information communication technology, and many other*
> *forms of representation relevant to children including screen*
> *based (electronic games, computers, the internet, television).*

Since multimodality (the use of a range of modalities to make and express meanings) is seen as a key aspect of early learning, a definition of literacy for young children must be one that encompasses the various modes of representation including play and drawing (e.g. Anning & Ring, 2004; Bodrova & Leong 2006; Ring, 2010). It must also define literacy from a semiotic position to include linguistic and non-linguistic forms of communication. The semiotic perspective recognises 'that children are exposed to communication tools and situations that are multimodal rather than exclusively linguistic' (Hill & Nichols, 2006, p. 155).

Strategic reading is both developmental in nature and open to instruction. Alexander (2003, 2006) distinguishes between surface-level strategic processing (for example, altering the reading rate when problems occur), and deep-level strategic processing where the reader transforms the text (for example, establishing intertextuality (Hartman, 1995). Alexander (1997, 2003), in her *Model of Domain Learning,* contends that reading develops across the lifespan of the reader from 'womb to tomb' (Alexander, 1997, p. 5) in three stages: acclimation, competence and expertise/proficiency. In the acclimation stage, reader knowledge is fragmented, piecemeal and naive and the reader uses surface-level strategies, drawing on limited experiences and prior knowledge. This results in difficulties in distinguishing relevant from irrelevant, and accurate from inaccurate

information. The competence phase is characterised by deeper processing strategies, drawing on a more cohesive and extensive prior knowledge base, individual interest in a topic and motivation, which is more intrinsic in nature. Finally, the proficient/expert reader draws on a highly principled and rich knowledge base with effective and efficient use of strategies and an individual rather than a situational identification and investment in domain knowledge.

EMERGENT LITERACY STAGE

Given that the age range for the review is 3-8 years the concept of emergent literacy is particularly significant. Whitehurst and Lonigan (1998, p. 849) define emergent literacy as 'the skills, knowledge and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing'. According to *Aistear* (NCCA, 2009, p. 54):

> *Emergent literacy is concerned with children developing a*
> *growing understanding of print and language as a foundation*
> *for reading and writing. Through play and hands-on experience*
> *children see and interact with print as they build an awareness*
> *of its functions and conventions.*

There is also a need to extend historical understandings of emergent literacy (Hall, 1987) to include non–print texts.

Over two decades ago Sulzby and Teale (1991) identified the term emergent literacy as a new way of conceptualising reading and writing development. They defined it then as 'the reading and writing behaviours that precede and develop into conventional literacy' (p. 728). They noted that the term had developed alongside new perspectives on reading and writing. This new meaning then given to what children learn about reading, writing and print prior to school was interpreted by Sulzby and Teale as indicative of a shift from a readiness perspective to a developmental perspective.

However, the authors emphasised too that the new term reflected the growing awareness of the concurrent development of oral language, reading and writing. They also emphasised that the emergent literacy perspective 'ascribes to the child the role of constructor of his or her own literacy' (p. 729). What is immediately striking about the way in which the term was understood two decades ago is the fact that it did not explicitly embrace the current conception of reading, writing and oral language as wholly interconnected aspects of literacy development. Also, it must be remembered that Vygotskian theory on various aspects of literacy for example, the development of symbolism, was much less well articulated then. Likewise, socio-cultural theories of literacy were only just beginning to feature in the literature. We can see the growth in the conception of the notion of emergent literacy by comparing the Sulzby and Teale definition with that of Whitehurst and Lonigan (1998, p. 849) who define emergent literacy as 'the skills, knowledge and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing'.

In contrast to this holistic view of emergent literacy, a developmental model has been proposed by Sénéchal, LeFevre, Smith-Chant & Colton (2001) whereby emergent literacy is viewed as separate from oral language and metalinguistic skills. This view proposes that emergent literacy is composed of two components, children's conceptual knowledge and their early procedural knowledge of reading and writing.

Conceptual knowledge includes children's knowledge of the acts of reading and writing and their perception of themselves as readers and writers. Procedural knowledge includes letter name, letter sound knowledge and some word reading. The development of oral language which includes listening comprehension and vocabulary, and metalinguistic skills which include phonological awareness are considered as separate constructs. As the interrelations and patterns

across each of these elements change over time, Sénéchal at al.'s review suggests that specifying the links between these elements can lead to a better understanding of the development of reading.

In sum, although reading, writing and oral language skills and strategies are crucially important to develop, it is important to espouse a broad vision of literacy, which encompasses the cognitive, affective, socio-cultural, cultural-historical, creative and aesthetic dimensions of literacy across the lifespan of the individual.

Summary

It is important to consider definitions of literacy across the life span of the individual. Definitions should encompass the cognitive, affective, socio-cultural, cultural-historical, creative and aesthetic dimensions of literacy.

Three important international assessment initiatives, the Programme for International Student Assessment (PISA), the Progress in International Reading Literacy Study (PIRLS) and the Programme for International Assessment of Adult Competencies (PIACC) all emphasise constructivist interactive processes of reading, where readers actively construct meaning from text. They recognise the importance of literacy in empowering the individual to develop reflection, critique and empathy, leading to a sense of self-efficacy, identity and full participation in society. The PIRLS definition also refers to the development of a community of readers within schools where social interactions around text encourage both the development of habits of mind (Brunner & Tally, 1999) and positive attitudes towards reading within the classroom learning ecology (Luckin, 2008; Reinking & Bradley, 2008; Zhao & Frank, 2003).

The definition espoused by the Department of Education and Skills (DES) in the National Strategy for Literacy and Numeracy (DES, 2011) notes that

>*literacy includes the capacity to read, understand and critically appreciate various forms of communication including spoken language, printed text, broadcast media, and digital media.*
>(DES, 2011, p. 8)

While the definition is broad, critically, it does recognise the importance of conceptualising literacy to include reading, writing, communication and oral language in both print-based and digitised formats. Given the prevalence of digital media, including the internet, in our daily lives, it is appropriate that this definition encompasses the new literacies framework (Leu et al., 2004) and hence presents a broad conceptualisation of literacy.

The concept of emergent literacy is also particularly significant. Historically, emergent literacy reflects a move from a 'readiness' perspective popular in the 1960s and 70s to a developmental perspective. Whitehurst and Lonigan (1998, p. 849) define emergent literacy as 'the skills, knowledge and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing'. The definition in the *Aistear* framework (National Council for Curriculum and Assessment, (NCCA), 2009) clearly recognises the importance of multiple modes and multiple representations in literacy. It also defines literacy from a semiotic position to include linguistic and non-linguistic forms of communication. In addition, *Aistear* (NCCA, 2009, p. 54) views emergent literacy as developing through 'play and hands-on experience [where] children see and interact with print as they build an awareness of its functions and conventions'. It is also important to take account of the interconnectedness of oral language and reading and writing within the emergent literacy phase. Likewise, Vygotskian theories related to language acquisition, symbolism and socio-cultural aspects of literacy development are also important to consider.

C H A P T E R   2 :

T H E O R E T I C A L

P E R S P E C T I V E S

What are the theoretical perspectives underpinning recent and current research and reflection on children's literacy development?

Research on literacy is underpinned by a broad range of theoretical perspectives which have evolved and developed over time. These perspectives have had, and continue to have a major influence on research, policy and pedagogy. Gaffney and Anderson (2000) in a review of the trends in reading research between 1965-2000, trace changes in the field through a systematic review of articles in two peer-reviewed journals (*The Reading Teacher* and *Reading Research Quarterly*) and find evidence to suggest that in this period the field has had three major paradigm shifts moving from behaviourist to cognitive to socio-cultural perspectives. These 'intellectual currents' (p. 53) have shaped policy and impacted on schools and classrooms changing the way literacy is conceptualised, taught and assessed. This chapter reviews these theoretical perspectives moving from early thinking in the field to the most recent theoretical perspectives including *cognitive* (e.g. Wren, 2002), *psycholinguistic* (e.g. Goodman, 1967; Bruner, 1999c), *cognitive apprenticeship* (e.g. Wood, Bruner, & Ross, 1976; Rogoff, 2008), *metacognitive* (e.g. Paris, Lipson & Wixson, 1994), *socio-cultural* (e.g. Dyson, 2002); *constructivist/social constructivist* (e.g. Vygotsky, 1978; Au, 1998; Rueda 2011); *socio-linguistic* (e.g. Halliday, 1993; Wells & Claxton, 2002); *critical theories* (e.g. Vasquez, 2004) *multimodal* (e.g. Flewitt, 2011) and *digital* (e.g. Marsh, 2011; Lankshear & Knobel, 2006; Burnett & Merchant, in press).

COGNITIVE THEORIES

In the 1960s and 70s, the work of cognitive psychologists was prevalent in the literature on the processes involved in reading,

including the structure of expository texts, story grammar of narrative text and schema theory. In the early to middle eighties, schema theory had a large impact on reading research which emphasised the individual cognitive processes readers use during reading. Meaning was essentially stored in the mental structures which were activated and organised during the reading process. This view asserts that readers and listeners actively construct meanings for texts they encounter rather than simply 'receiving' meaning from texts (Anderson & Pearson, 1984). However, in more recent years, researchers have used terms such as *existing knowledge, topic knowledge, or prior knowledge*, instead of *schemata* (Gaffney & Anderson, 2000) and they assert that schema theory is still influencing our perceptions of reading. In relation to reading comprehension, schema theory presents a model for representing knowledge and organising experience (Pearson 1992). Kintsch (1998) noted the limitations of schemas as largely top-down tightly controlled models and he adopted a broader 'construction–integration' model of comprehension which is more complex yet also incorporates schema.

Cognitive-psychological theories of reading development have also contributed to stage models of reading (see below).

The recent Cambridge review, *Children's Cognitive Development and Learning* (Goswami & Bryant, 2010) surveyed a large range of children's cognitive development since 1967, with focus on the early years (0–10). This survey considered central aspects of child development, thinking and learning in the primary years. It contradicts the conclusion of the Plowden Report, based on Piaget's theory, that there are developmental stages in learning to think, but it emphasises the crucial parts played by social and motivational factors in children's learning. This report also underlines the cognitive prerequisites for reading: language development, perceptual development and spatial development. These early dispositions can be

enhanced by direct teaching- for example, using oral rhyme and rhythm games. For reading, the key cognitive prerequisite, according to Goswami and Bryant (2010), is *phonological awareness,* the child's ability to reflect upon the sound patterns of words in his/her mental lexicon at different 'grain sizes', for example syllables or rhymes. Teaching through rhyming games, for example, aids the development of phonological awareness.

PSYCHOLINGUISTIC THEORIES

Building on the language theory of Halliday (1975) and Chomsky (1957), Goodman (1967, 1994) constructed a theory and model of the reading process which he called the transactional socio-psycholinguistic model of reading. This theory was built on the analysis of studies of a large number of children's miscues in reading. Children were observed using graphophonic, syntactic and semantic cues as they predicted and inferred from the text. Insights from miscue analysis led Goodman to define reading as a 'psycholinguistic guessing game'. A focus of the psycholinguistic perspective is on reading for meaning; one learns to read by reading and the teacher's role is to facilitate children to read rather than teach them. This theory focused on reading as a constructive process: the reader makes sense of text by using prior knowledge. The work of the psycholinguistic theorists had a major impact on the study of reading and fostered the use of authentic literature using texts with natural language patterns to make it possible for emerging readers to use their knowledge of language to predict words and meanings. (Smith, 1971, 1987) According to this view, the reader samples the text with the main focus on meaning making. Reading is perceived as a constructive process – a predictive process based on prior knowledge.

This perspective minimises the role of decoding in learning to read. Reading is more dependent on knowledge of the world and the

language context than the orthographic knowledge of the printed word. More than 40 years later, the psycholinguistic perspective continues to influence the teaching of reading and this can be seen in the emphasis on good quality children's literature and a response to literature in developing the child's imagination. Texts with natural language patterns have become part of the literacy curriculum, helping the beginning reader to make use of prior knowledge of language and take risks in reading.

Psycholinguistics also focuses on children's errors or miscues in reading not as 'mistakes' but as a means to further understand the strategies or cueing systems being used during reading. Policy in the UK was influenced by the psycholinguistic perspective insofar as the use of a 'reading searchlights model' was outlined in the National Literacy Strategy (DfEE, 1998). The strategy emphasised the use of four cueing strategies or *searchlights* (phonic knowledge, context knowledge, graphic knowledge, word recognition) which support the reader in making sense of text. It should be noted, however, that over-reliance on contexts clues as a word identification strategy slows reading down considerably, relative to phonologically-based strategies (e.g. Stanovich, 1986), and that over-use of context clues is a symptom of inefficient reading.

METACOGNITIVE THEORIES

Another important theory concerns the role of metacognitive processes in reading, writing and spelling. Readers who use metacognitive strategies are aware of the cognitive resources they have to accomplish a goal, they check the outcomes of their attempts to solve problems, they monitor the effects of their attempts, they test, revise and evaluate their strategies for learning, and they use compensatory strategies when reading breaks down. Metacognitive strategies can be developed in conjunction with strategy instruction

(whether in word identification/spelling, reading comprehension, or writing/composition) that emphasises the steps in implementing a strategy, when to implement the strategy, and why. According to Paris, Lipson and Wixson (1994), strategic knowledge in reading and in other learning tasks can be described as:

- *declarative* (where the child is aware of and can name and describe the strategy)

- *procedural* (where the child applies the steps involved in implementing the strategy)

- *conditional* (where the child knows why the strategy should be used, and when to apply it).

Beyond this, it is important for children to select the appropriate strategy in a given literacy situation and apply it independently. Flexible use of strategies can promote independence. In the context of reading, Paris, Wasik and Turner (1991, p. 634) noted:

> *…the development of strategic reading depends on personal motivation to select and apply persistently strategies that are appropriate to the task. Such motivation requires knowledge about the instrumental value of strategies, different purposes for reading, confidence in one's self-efficacy, and beliefs about the ability to control reading to achieve a desired goal.*

COGNITIVE APPRENTICESHIP THEORIES

Wood, Bruner and Ross (1976) defined scaffolding as a 'process that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts' (p. 90). As such, scaffolding draws on the Vygotskian concept of the zone of proximal development (ZPD) where the learner socially constructs knowledge with a more knowledgeable other. Vygotsky (1978, p. 86)

defined this ZPD as

> *the distance between the actual development level as*
> *determined by independent problem-solving and the level of*
> *potential development as determined through problem-solving*
> *under adult guidance or in collaboration with more capable*
> *peers.*

Scaffolding involves balancing support along with challenge, where the ultimate goal is independent, self-regulated learning (Vygotsky, 1978).

Scaffolding involves functions, such as gaining and maintaining a child's attention, reducing the task to manageable components, accentuating relevant features of the task, reducing possible frustrations and demonstrating and modelling task components (Wood et al., 1976). In the classroom, scaffolding involves a delicate balancing act for the teacher where the teacher provides 'just-in-time' assistance (Hmelo-Silver, Duncan & Chinn, 2007), through explicit strategy instruction, modelling, demonstrating and thinking aloud in a task situation where the child is challenged. Azevedo, Cromley and Seibert (2003) described four levels of scaffolds – conceptual, metacognitive, procedural and strategic. Each of these scaffolds provides support to the child to develop self-regulation by providing hints and prompts on what to consider during problem-solving. Each scaffold also develops knowledge about underlying processes, provides guidance about how to perform tasks, and suggests what strategies to consider when performing tasks. Quintana et al. (2004) draw on Collins, Brown and Newman's (1989) cognitive apprenticeship model to note that children will develop problem-solving skills through a more knowledgeable other mentoring, guiding, coaching and structuring the task for the child, without explicitly giving children the answers. Such scaffolding is both generative and reflective

(Collins et al., 1989; Daiute & Dalton, 1993). The goal is that teacher assistance will fade over time and the child will apply strategies to new situations and adopt a flexible, metacognitive approach which includes procedural, declarative and conditional levels of knowledge (Bereiter & Scardamalia, 2006). Scaffolding involves continuously monitoring the level of support needed and making adjustments accordingly. This kind of *adaptive* scaffolding leads to greater levels of self-regulated learning (Azevedo et al., 2003).

SOCIO-CULTURAL/SOCIO-CULTURAL-HISTORIC THEORIES[1]

Socio-cultural theories of literacy emphasise the role that culture plays in the development and practice of literacy (Razfar & Gutiérrez, in press). Literacy learning from this perspective is a social practice, one that is embedded within specific cultural contexts and mediated by particular cultural tools (Gutiérrez, 2002). Research in this field utilises Vygotsky's (1978) notion that language learning is influenced by the social contexts in which children are immersed as they grow up and that they draw on a range of mediational tools in the construction of meaning (Cole, 1996). In a study conducted in Africa, Scribner and Cole (1981) outlined how the Vai community drew on multiple languages, including Arabic, English and Vai, in different ways depending upon the power relations within any given context. In that study, Scribner and Cole argued that traditional psychological correlations between literacy and cognitive ability were overstated, if not unfounded. They found that the Vai used multiple literacy practices as means to accomplish social and cultural ends in everyday life, and that literacy did not necessarily link to cognitive ability. School literacy was linked to performance on school-related tasks and assessments (Cole, 1996). As a result of this work, we came to understand that literacy is not simply an individual cognitive activity, but is a communicative tool for different social groups with

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1   This section of the review draws from Larson, J. and Marsh (2005) *Making Literacy Real.* London: Sage.

social rules about who can produce and use particular literacies for particular social purposes. Scribner and Cole's study subsequently influenced a range of ethnographic studies of literacy within specific cultures, such as Street's (1993) research in Iran and Heath's (1983) study of literacy practices in the home, research which emphasised the way in which individuals' literacy practices are shaped by the social, historical and cultural contexts in which they operate and how literacy learning, therefore, needs to draw upon learners' out-of-school experiences. Research in the socio-cultural field has also demonstrated how adults can scaffold children's literacy learning through apprenticeship models (Rogoff, 1990). Sociocultural theories of learning emphasise the social nature of learning and thus also draw on concepts such as the community of practice model (Lave and Wenger, 1991), in which learners engage in 'legitimate peripheral participation' in communities of learners. Novice learners join more expert learners in a community and, as they gain skills, knowledge and understanding, become more central members of the expert group.

Much of the recent work drawing on socio-cultural theory has been located within the field of New Literacy Studies (NLS), which emphasises the way in which literacy is a social practice that is located within a wider social, economic and political context (Gee, 1990; Street, 2001). Brian Street's (1993) cross-cultural ethnographies of literacy are a key foundation of NLS. Of interest to this review is his concept of autonomous and ideological definitions of literacy (Street, 1984). Rather than being two opposing views, it is most helpful to think about autonomous and ideological definitions as being points on a continuum of definitions. At one end, autonomous models define literacy as a unified set of neutral skills that can be applied equally across all contexts (Street, 2005). From this perspective, there is no need to adjust instruction for different contexts of use or diverse learners. At the other end, ideological models define literacy as a social practice grounded in social, historical, cultural and political contexts of

use. In this view, the nature and meaning of literacy are constructed in the specific social practices of participants, in particular cultural settings for particular purposes. Thus, literacy is more than acquiring content but, in addition, locates reading and writing in the social and linguistic practices that give them meaning (Street, 2005, p. 3). To be more specific, autonomous models of literacy are based on a reductionist definition of literacy rooted in Western schooling. These school-based concepts of literacy are held as a standard definition of literate competence across contexts. In other words, universalistic conceptions of literacy put forward in autonomous models assume texts have meanings that are independent of their context of use. NLS claims that texts do not have uses independent of the social meanings and purposes people construct (Barton & Hamilton, 1998). Furthermore, autonomous definitions associated with school can suppress children under the ideology and social control of dominant groups, preventing a critical analysis of their social and political contexts (see section on critical theory). Thus, if literacy is represented as a context-neutral skill, then it fulfils the political purposes of those in power to maintain a position of superiority by marginalising other forms of literate knowledge (Street, 2005), specifically the rich and varied practices children bring to the classroom.

An ideological view of literacy assumes that literacy is a set of social practices that are historically situated, highly dependent on shared cultural understandings, and inextricably linked to power relations in any setting (Gee, 1996; Street, 1995). Literacy is intimately tied to contexts of use or what people do with literacy in formal and informal settings, both inside and outside of school. Literacy is not just reading and writing English text (in English dominant settings), but is a multimodal social practice with specific affordances in different contexts (Kress, 2003). From this perspective, social and linguistic practices are mutually constituted within past and present power relations among people who write and read to accomplish social goals.

In this framework, the context is constituted by local, culturally specific practices that outline who has access to learning to read and write which kinds of texts for which purposes. Children need to navigate the differences between what Gee (1999) terms as big and little discourses – 'D/discourse'. Discourse with a 'big D' represents the various culturally organised ways of acting and being in the world, or 'forms of life', that are enacted, reproduced, or transformed through language in use, or what Gee calls discourse with a 'little d'. Children who fail to adopt the big 'D' discourses that permeate schooling because their own social and cultural backgrounds are very different may not thrive in the education system (Gee, 2001).

Socio-cultural theories of literacy have led to an understanding of the way in which children are immersed in literacy practices from birth and thus develop a range of skills, knowledge and understanding about literacy (Hall, 1987), their 'funds of knowledge' (Moll et al., 1995), which do not always match with the discourses of schooling (Gee, 1990). Children's own cultural interests, however, can be important in literacy learning. Over the past two decades, research drawing on socio-cultural theories has indicated how popular culture and media inform children's literacy learning, given that these are prevalent across children's lives. Dyson's work (1993; 1997; 2001a; 2001b; 2003) illustrates how young children's writing development is informed by their social relationships in which peers draw on popular cultural resources in their play and writing. Wohlwend (2011) has conducted a longitudinal study of children's play literacy learning in an early childhood classroom and has outlined how the discourses surrounding children's popular cultural artefacts and texts become layered with the sedimented identities of individuals in the production of a range of oral, written and filmed texts which both replicate and challenge traditional gendered stereotypes (embedded within texts such as the Disney Princess films and artefacts).

Socio-cultural models of literacy learning have also influenced

research in the field of bilingualism, in which studies have demonstrated how children who speak multiple languages develop sophisticated 'syncretic' models of literacy in which they develop hybrid texts which, for example, incorporate alphabetic scripts from a range of languages (Gregory, Long & Volk, 2004; Kenner, 2004). This research suggests that bilingual education should not just pay attention to the acquisition of multiple languages, but should attend to the way in which children are embedded simultaneously in multiple cultural worlds (Kenner & Gregory, in press).

More recently, the significance of cultural-historical explanations of learning and development have been emphasised and some writers use the term socio-cultural historical theory instead of, or alongside, socio-cultural theory. Socio-cultural-historical perspectives take into account the social, historical and cultural dimensions of everyday activities and seek to better understand children within this richly framed research context.

SOCIO-LINGUISTIC THEORIES

Closely associated with socio-cultural theories of language literacy are sociolinguistic theories (e.g. Bloome & Green, 1984). The latter focus not only on cognitive aspects of language and literacy, but also on the social and linguistic aspects. As with socio-cultural theories, the social aspect relates to the use of language and literacy to establish, structure and maintain social relationships between and among people, while the linguistic aspect is concerned with the communication of intention and meanings among language and literacy users. Work on socio-linguistics has focused on the instructional and non-instructional context for language and literacy, as well as home and community literacy contexts. According to Bloome and Green (p. 396), a socio-linguistic perspective involves examining how language is used to establish a social context, while also examining how the social context influences language use and the communication of meaning. In practice, these two issues are

generally separated, with studies looking at one or other aspect. Hence, studies such as those by Heath (1983) and Gee (1990) fall into under both the socio-cultural and socio-linguistic umbrellas.

CONSTRUCTIVIST AND SOCIO-CONSTRUCTIVIST MODELS

When children collaborate in constructing meaning from text, they have what Kucan and Beck (1997) refer to as 'multiple resources at the reading construction site' (p. 289). Processing moves from individual reader-text interactions to a situation where readers can draw upon not only the knowledge of others (both children and teachers) but also the 'processes by which such knowledge is constructed'. Therefore, as children interact in social settings, they are acquiring both knowledge and the processes by which knowledge is constructed (Putney et al., 2000). This socio-constructivist perspective allows for a window onto the processes of others when constructing meaning through discourse in a social setting (interpersonal) which could later transfer to an internalisation of the strategic processes within an individual (intrapersonal) (Vygotsky, 1978). Knowledge is not merely 'the sum of individuals' knowledge' but is rather 'distributed among participants as the nature of their participation shifts' (Gutiérrez & Stone, 2000, p. 160).

CRITICAL THEORY

Critical literacy, based on critical literacy theory, has become a popular approach to teaching English to children in some English speaking-countries, including Canada, Australia, New Zealand, and the United Kingdom. At the heart of this approach to teaching is the belief that while literacy enables children to make meaning from texts, critical literacy will empower them to understand how texts are trying to influence and change them as members of society. There are two broad perspectives related to critical literacy: a neo-Marxist/ Freireian perspective, focusing on the use of literacy to empower the

disempowered, and the Australian perspective, which emphasises the interpretation of language and text as a social construct and the recognition that a text (whether oral or written) is never neutral but is designed to inform, entertain, persuade and manipulate. Researchers associated with this philosophy include Alan Luke, Michele Anstey, Barbara Comber, Vivian Vasquez, John Elkins, Peter Freebody and the New London Group.

Implications for teaching that arise from critical literacy theory include: reading texts from a 'resistant perspective' whereby the reader confronts certain stereotypes promoted by a text and deconstructs the meaning or value being privileged (Behrman, 2006), producing (writing) counter-texts (i.e. texts that are written from a non-mainstream perspective), providing children's choice of texts (with provision for follow-up critical analysis of such texts) and reading multiple texts.

Luke and Freebody's (2000) four resources model embeds critical literacy in the broader context of reading. They identify the following as key aspects of literacy and, by implication, literacy instruction: coding (word identification) practices, text meaning practices (focusing on the relationship between ideas in a text); pragmatic practices (focusing on how the reader can use the text, including options and alternatives); and critical practices, as described above.

MULTIMODALITY

In recent years, theories relating to multimodality have challenged the privileging of language in the education system. Communication has always been multimodal—humans make meaning through various modes, including images and gesture—but schooling has focused primarily on oral and written language. There is a need to attend to other modes in the digital age, in which image and

movement, for example, have become prevalent across all kinds of screens (Kress, 2003; 2010). Flewitt (in press) offers the following definition of multimodality:

> *The term 'multimodality' describes approaches to representation that assume communication and meaning-making are about more than just language. Multimodality takes into account the many different modes in printed and on-screen texts (such as image, layout, colour and language) and also the different modes that people use as they engage in face-to-face interaction (such as gesture, gaze, artefacts and language), and considers how these modes work together to create meanings in a 'multimodal ensemble'.*

Rather than drawing on modes in an arbitrary manner, young children use modes in strategic ways and are purposeful in their intent (Rowe, 2008). Lancaster (2001) closely examined the mark-making practices of a 2-year old child and identified how important the deliberate use of gaze by the child was in making meaning through this process. Whilst young children's multimodal texts might appear at times to be an ad-hoc mixture of various materials, children have normally chosen their resources very carefully (Kress, 2003). In addition, such meaning-making practices are significant in the construction of identities. Pahl (2009) has detailed how the artefacts that children create from range of materials, including shoeboxes, glitter and beads, sediment children's narratives and should be seen as an important aspect of their communicative practices.

In addition to drawing on a range of modes, children also move across media (forms of disseminating meaning) as they engage with texts. A recent study examined the multimodal practices of children (3-4 years) in homes and in school and identified how they were competent in making meaning from a range of modes across a

variety of media, such as computers, television and electronic toys (Flewitt, 2011; Wolfe & Flewitt, 2010). Research in early years classrooms suggests that children are engaged in multimodal production and analysis in unofficial activities (Björkvall & Engblom, 2010), and that teachers can draw on their skills and knowledge in order to embed multimodality in the official curriculum. Walsh (2011), for example, outlines how teachers enable children to create multimodal, multimedia texts, such as animations and electronic presentations (e.g. using Microsoft Photo Story), which utilise their skills, knowledge and understanding of multimodal texts that they have developed through home literacy practices. There are pedagogical challenges in this work. Teachers and children need to develop an understanding of the affordances of each mode, that is, an understanding of what each mode can offer in the communication process, and therefore an awareness of which modes should be used for what purposes. There is also a need to develop assessment criteria so that teachers are able to identify stages of development in children's skills and knowledge in this area. Bearne (2009) proposes a framework for analysing children's multimodal texts that pays attention to:

- *image:* content, size, colour, tone, line, placing/use of space

- *language:* syntax and lexis

- *sound/vocalisation:* content, emphasis, volume, vocal intonation, pause, pace

- *gaze:* direction of gaze of communicator or character in representation

- *movement:* gesture and posture.

These aspects can be analysed across children's multimodal productions, whether they are on paper, screen, or other form.

DIGITAL LITERACY

In the twenty-first century, it has become increasingly clear that literacy is changing due to developments in technology. Various terms have been developed to refer to the reading and writing of electronic-based texts, including 'techno-literacies' (Marsh, 2004), 'new literacy' (Lankshear & Knobel, 2006) and 'digital literacy' (Merchant, 2007, 2008). What all of these terms refer to are the skills, knowledge and understanding required to analyse, produce and make meaning with multimodal texts that are disseminated through electronic media, such as computers, televisions, console games, handheld consoles, mobile phones and touch screen technologies such as the iPad.

Whilst literacy in a digital age continues to draw on traditional practices, such as decoding and encoding using alphabetic print, there are a number of ways in which it can be distinguished as different in nature from literacy in non-digital eras. These differences can be characterised as a new 'mindset' (Lankshear & Knobel, 2006) that is a result of the way in which networked technologies are fostering new kinds of participation and collaboration. Authorship is no longer primarily individual, but texts can be constructed by many participants who do not always need to know each other (as in the case of, for example, wikis). The primacy of the book as the key text of authority has been displaced, and this means that a plurality of voices and opinions on a range of matters can be discerned through, for example, the use of blogs. Place, space and time become ever more fluid as a result of mobile technologies which means that it is much easier to communicate with a wide range of global audiences through social networking sites such as Twitter and Facebook and readers and writers are able to engage with texts in a diverse range of spaces using screen interfaces.

Jenkins et al. (2006, p. 4) have suggested that a range of new kinds of skills are required in this move to a participatory culture:

Play–the capacity to experiment with one's surroundings as a form of problem-solving.

Performance–the ability to adopt alternative identities for the purpose of improvisation and discovery.

Simulation–the ability to interpret and construct dynamic models of real-world processes.

Appropriation–the ability to meaningfully sample and remix media content.

Multitasking–the ability to scan one's environment and focus on salient details.

Distributed cognition–the ability to interact meaningfully with tools that expand mental capacities.

Collective intelligence–The ability to pool knowledge and compare notes with others towards a common goal.

Judgement–the ability to evaluate the reliability and credibility of different information sources.

Trans-media navigation–the ability to follow the flow of stories and information across multiple modalities.

Networking–the ability to search for, synthesise and disseminate information.

Negotiation–the ability to travel across diverse communities, discerning and respecting multiple perspectives and grasping and following alternative norms.

Digital literacy has not just led to new kinds of practices, but also to new kinds of texts. Electronic books, for example, enable readers to engage in a range of activities that extend the text, and text messages have promoted the creative use of written language which draws on features of oral language incorporating emoticons and inventive use of punctuation. Whilst theoretical traditions relevant to traditional print-based literacy practices are still relevant for digital literacy, there is a need to extend traditional analytical lenses in order to understand the kinds of changes that are occurring in the new media age (Lankshear & Knobel, 2006).

INFLUENCE OF MOTIVATION, ENGAGEMENT, AND SELF-EFFICACY ON LITERACY DEVELOPMENT

Levels of motivation and engagement have been found to predict achievement (Baker & Wigfield, 1999) and as such are key factors in determining children's academic success. They are critical to ensuring children develop both the skill and will to engage in literacy activities. Given that the terms are often used interchangeably in the research literature, Fredericks, Blumenfeld and Paris (2004) in a major review of the literature have drawn attention to the need for a broad definition in order to capture the multiple dimensions involved. They consider the term engagement to be a 'meta' construct, encompassing the behavioural, emotional and cognitive aspects, all of which are critical to successful learning.

The first dimension, behavioural engagement, refers to the degree of investment that a child gives to academic tasks including the level of effort, concentration and persistence. The second dimension, emotional engagement refers to children's affective responses to learning activities which can range from positive (interested, curious, happy, sense of belonging) to negative responses (boredom, anxiety, alienation) depending on the school and classroom climate and the nature of the literacy task. The third dimension, cognitive engagement, encompasses a

number of elements including: the motivation to learn (intrinsic versus extrinsic); the setting of goals for learning (mastery versus performance); the harnessing of metacognitive strategies (e.g. planning, rehearsal, monitoring, and evaluating) in pursuit of these goals and ability to sustain the effort required to realise them. Lutz, Guthrie and Davis (2006) suggest the need for a fourth dimension. Drawing on socio–constructivist theories they argue for the broadening of the construct to include 'social engagement' (p. 11) in order to capture the importance of the social nature of learning and its impact on learners.

Closely connected to the engagement construct is the concept of perceived self–efficacy which Bandura (1995, p. 2) defines as follows:

> *Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations. Efficacy beliefs influence how people think, feel, motivate themselves and act.*

Clearly, the motivation to engage with academic tasks is influenced by beliefs about self-efficacy and determines the level of engagement. This is in line with Eccles et al.'s expectancy-value theory (1983) which argues that in addition to an individual's beliefs about perceived competency to complete the activity is the value an individual places on it, the attractiveness of the activity and the perceived reward for completing it.

The constructs of engagement and self-efficacy have important implications for successful literacy development. Compared to those who are reluctant readers or who read for eternal validation, highly engaged readers are intrinsically motivated, tend to have a strong sense of self–efficacy and have higher levels of reading achievement. Levels of intrinsic motivation have been found to predict amount and breadth of reading (Wigfield & Guthrie, 1997). Engaged readers set mastery goals, reading for their own purposes whether for pleasure or for information (Guthrie, McRae, Lutz-Klauda, 2007). Because they

see literacy as a useful and valuable activity they read widely and frequently, selecting books of particular interest, and initiate literary conversations. Engaged readers' appetite for challenge and positive self-concept enables them to persist with difficult tasks, confident that they possess the necessary skills and strategies to be successful. They often experience what Csikszentmihalyi (1978, in Wigfield & Guthrie, 1997) call 'flow experience' (p. 3), a loss of awareness of time passing as they absorb themselves in stimulating authentic literacy tasks such as solving intricate plots, developing a deep understanding of complex concepts or composing their own texts. Rueda (2011b) argues that the goal of education is to produce a learner who has 'developed expertise in a variety of areas, who can self-regulate his or her own learning and motivation and adjust accordingly, and who is able to perform to the best of his or her ability' (p. 8). Success in achieving this goal is dependent on three variables deemed to be of equal importance: a) levels of teacher and student knowledge and skill; b) teacher and student motivation; c) organisational and contextual factors which are situated within the wider social and cultural context (see figure 2.1).

Figure 2.1: The three measures that impact the goal of engaged, expert, self-regulating learners
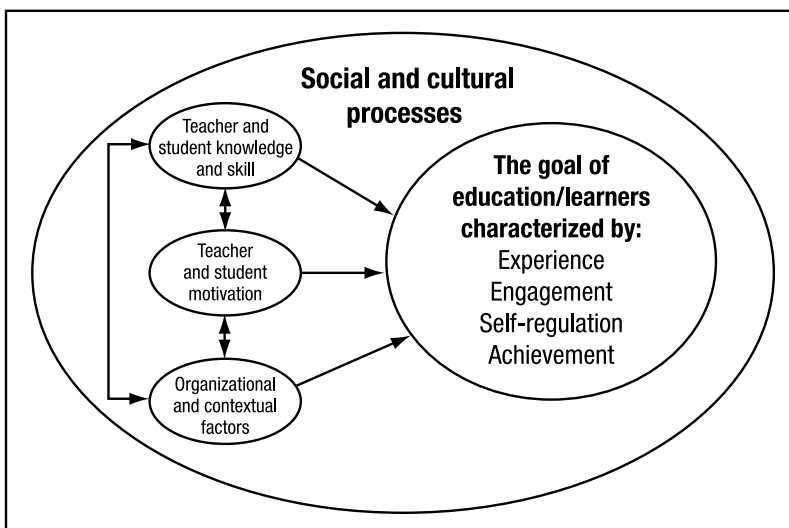
Source: Rueda (2011b).

The implications of the constructs of motivation, engagement and self efficacy for pedagogy are discussed in Chapter 4.

SUMMARY

This chapter presented an historical overview of a broad range of theoretical perspectives on young children's literacy development. Three major paradigm shifts are flagged moving from behaviourist to cognitive to socio-cultural perspectives. In the case of a number of perspectives we saw how the associated theory shaped what are now generally accepted maxims about literacy development. For example, arising from the work of cognitive psychologists there is now widespread acceptance of the idea that *phonological awareness* is a critical aspect of early literacy development. The emphasis placed on reading for meaning was seen to arise from the psycholinguistic perspective. Metacognitive theories emphasise the role of metacognitive processes in reading, writing and spelling while cognitive apprenticeship models have led to the emphasis that is placed on children developing problem-solving skills in literacy–related activity through the assistance of a more knowledgeable other. Socio-cultural theories of literacy were identified as those which emphasise the role that culture plays in the development and practice of literacy, the social nature of learning (including observing how others construct meaning within literacy practices, and in some instances internalising understanding of those processes), and the way in which literacy practice is located within a wider social, economic and political context. Critical literacy was seen to empower children in understanding how texts may influence and change them as members of society.

Making meaning using various modes was identified as part and parcel of young children's communicative practices. Examples of modes included children's use of gesture and their construction and

use of images. The strategic ways in which young children use modes, and their purposeful intent in selecting particular modes for particular purposes, emphasised how multimodality makes explicit how children's power and agency are exercised by them in their meaning-making in relation to texts.

Finally theoretical perspectives emphasising the key role in literacy learning of children's motivation, engagement and sense of self-efficacy were reviewed. Disposition and a sense of being able emerged as crucial components in young children's literacy development. Table 2.1 offers an overview of the theories discussed in this chapter and identifies how these theories relate to later sections of the report.

Table 2.1: Theories relevant to literacy learning

Theory	Key concept	Pedagogical implications	Relevant pages in this report	Key references
Cognitive	Reading is an individual, cognitive process.	Children's phonological and morphological awareness should be developed from an early age, as well as phonemic awareness.	pp.85-87; 92-95	Adams, 1990; Ehri et al., 2001a; Ehri, et al., 2001
Psycholinguistic	Reading is a meaning-making process in which the reader draws on graphophonic, syntactic and semantic cues.	Need to ensure reading pedagogy develops children's skills in using a range of cues, not just graphophonic and that children are encouraged to read for meaning, not simply decode de-contextualised print.	pp.85-87	Goodman, 1967; Smith, 1987

Theory	Key concept	Pedagogical implications	Relevant pages in this report	Key references
Metacognitive	Readers and writers need to monitor, review and revise the strategies they use.	Pedagogical approaches should be used that enhance metacognitive skills.	pp.106-110	Paris, Lipson & Wixson, 1994
Cognitive apprenticeship	A process in which learners so-cially construct knowledge with a more knowledgeable other.	Teachers should use explicit strategy instruc-tion, modelling, demonstrating and thinking aloud in task situations where children are challenged.	pp.188-189	Rogoff, 1990; Wood, Bruner & Ross, 1976
Socio-cultural/ socio-cultural-historic	Views literacy as a social prac-tice that is shaped by social, cultural, economic and historical fac-tors.	Teachers should acknowledge children's out-of-school literacy prac-tices and build upon these in the classroom context.	p.134; 139-140	Gee, 1990; Heath, 1983; Street, 1995
Socio-linguistic	Emphasises the way in which language is shaped by the social and in turn influ-ences the social context.	Teachers should be sensitive to how language is used within the classroom and how children's cultural back-grounds will impact upon their language use and under-standing.	pp.178-9	Bloome & Green, 1984; Heath, 1983; Gee, 1990
Constructivist/ socio-construc-tivist	Knowledge is socially constructed.	Children should have opportuni-ties to engage in dyad and group activities in which they can acquire knowledge and the processes by which knowledge is constructed.	pp.108-9; 148; 179	Kucan & Beck, 1997; Putney, Green, Dixon, Durán & Yeager, 2000

Theory	Key concept	Pedagogical implications	Relevant pages in this report	Key references
Multimodality	Communication involves a number of modes including oral and written language, image and gesture.	Children should learn about the ways in which each mode operates and how the modes are orchestrated in any one text.	p.127	Flewitt, 2011; Kress, 2003; 2010
Critical theory	All texts are ideologically shaped and readers need to be able to identify the way in which power is inscribed in texts.	Children should have opportunities to analyse how texts are constructed to inform, entertain, persuade and/or manipulate.	p.111	Comber, in press; Luke & Freebody, 2000; Vasquez, 2004
Digital literacy	Technological developments have led to new literacy practices such as reading and writing on screens and in online networks.	The literacy curriculum should include opportunities to read and create digital texts.	pp.125-130	Burnett & Merchant, in press; Lankshear & Knobel, 2006; Marsh et al., 2005
Theories relating to motivation, engagement, and self-efficacy	Behavioural, emotional and cognitive engagement is critical to successful learning.	Teachers should ensure that children are engaged through an emphasis on child autonomy, choice and control over learning.	pp.112-113; 114-115	Baker & Wigfield, 2000; Bandura,1995; Fredericks, Blumenfeld & Paris (2004)

CHAPTER 3:
STAGES OF
LITERACY
DEVELOPMENT

Does current and recent research propose stages of development in children's literacy? If so, how are these stages defined and what are the essential indicators at each stage?

Research on stage models is summarised in the sections which follow. Stage models dealing with: *emergent literacy* (Whitehurst & Lonigan, 1998), *word reading* (Frith, 1985; Ehri, 1995), *reading proficiency* (Chall, 1983; Alexander, 2006), *spelling* (Bear, Invernizzi, Templeton, & Johnston, 2004); *writing* (Berninger & Swanson, 1994), and *handwriting* (Berninger & Graham, 1998) are outlined with reference to key indicators of literacy development in young children. As with oral language (after the initial stages of acquisition), there are no stage models of reading comprehension development. Instead, the emphasis is on the incremental development of vocabulary and comprehension from the very earliest stages as children's knowledge and interests broaden and they are introduced to more complex and challenging narrative and informational texts in print and digital forms.

THE READING PROCESS

Bottom–up models

Early models of the reading process, or information processing models of reading such as those put forward by Gough (1972), and La Berge and Samuels (1974) represented a detailed letter-by-letter or 'bottom up' approach to understanding reading. Gough's theory of the reading process described the flow of information during reading as a sequentially–ordered set of transformations from letter, to phoneme, to lexical level representation and finally to deep structural representation.

The cognitive processes involved were described by La Berge and Samuels (1974) as three separate systems, which hold the representation of the input string. These systems were described as the *visual memory system*, the *phonological memory system* and the *semantic memory system*. All of this information feeds into the process which determines the reader's meaning and understanding of the text. These individual processes or 'flow charts' were described separately and take account of the perceptual processes involved in reading.

These early models of reading, however, do not explain how the processes interact with one another. La Berge and Samuels suggest that for the fluent reader, decoding becomes automatic and most of the reader's attention can be directed to comprehending the text, whereas in beginning reading, attention switches from decoding to comprehension and back again, as only one task can be done at a time (1974).

The 'simple view of reading' (Gough & Tunmer, 1986), which focuses on the roles of decoding and language comprehension in reading, emanates from bottom-up models of reading. It is now widely accepted and has continued to underpin frameworks for reading instruction in the UK (National Literacy Strategy, DfEE, 1998; Rose, 2006) and to influence literacy education in other countries. This simple formula states that reading comprehension (RC) is the product of Decoding (D) and Language Comprehension (LC), hence RC=D X LC. This view, however, does not consider the recursive interaction necessary for the reader to process the many different clues or sources of information while reading. For example, it does not take into account whether the reader has adequate background knowledge to understand a text, nor does it take a socio-cultural context of literacy learning into account.

Top-down models

As discussed in Chapter 2 under psycholinguistic models of reading, top-down models of reading, such as those proposed by Smith (1971) and Goodman (1967, 1994) emphasise the role of text context in identifying words that are not known to the reader. Hence, armed with relevant prior knowledge, semantic and syntactic knowledge, the reader is in a position to sample words from the text that confirm meaning. However, as noted earlier, the validity of this model has been questioned in the literature (e.g. Adams, 1990; Stanovich, 1986), and, while context may be useful to confirm the meanings of newly-identified words, it cannot operate as a stand-alone approach to identify words.

Interactive models

Adams (1990) subsequently outlined a more interactive model of reading involving four processors that interact and cooperate with one another to deliver information to the reader: the *context processor*, the *meaning processor*, the *orthographic processor* and the *phonological processor*. Within each of the 'processors', knowledge is represented and interrelated with other knowledge from the other 'processors' in the model. As the reader recognises the letters in a word, spelling patterns, pronunciations and meanings with which they are compatible are activated. At the same time, the context processor constructs a coherent interpretation or message. In this model skilful readers access the spelling, sound, meaning and context of a familiar word almost automatically. Words are recognised quickly and fluently. Each of these systems accepts information from the other. The most important system in this model is the orthographic processor which receives information directly from the printed page, and, if the word is known to the reader, its meaning is accessed automatically. If the meaning is not known, the reader may engage in additional phonological processes, or may require support from the context and

meaning processes. In skilful reading, the mind uses as many cues as it can recognise as relevant, though a direct link from the orthographic processes to the meaning processor is seen as the most efficient route (Adams, 1990).

Adam's (1990) interactive model of reading seeks to describe and explain how both the perceptual processes and the cognitive processes involved in reading interact. The question was also addressed by Rumelhart (1998). He envisages a *message centre* where hypotheses are measured, evaluated and a new connection is made. This model proposes hypotheses or knowledge sources at five different levels. It is a means of representing a set of interacting processes or knowledge sources:

- *Feature level knowledge:* at a basic level of processing, the reader extracts the critical features of the word/ letters/print.

- *Letter level knowledge:* using previous knowledge of letters, the reader hypothesises and evaluates that letter knowledge against the new information. The reader takes into account the probabilities of letters in the language.

- *Letter-cluster knowledge:* the letter level knowledge is scanned for a hypothesis regarding the likelihood of letter sequences or units of sound in the language.

- *Lexical level knowledge:* using information from letter knowledge and letter clusters, the reader scans the text for letter sequences, which form lexical items. The convergent information is strengthened.

- *Syntactic knowledge:* the most probable interpretation from the reader's syntactic knowledge is considered as input. For example a reader may assign a lexical category to a particular word, the most likely possibility entered first.

- *Semantic level knowledge:* this is the ability to look for semantic level correlates to evaluate the plausibility of the hypothesis. This gives the reader text-based information on which comprehension depends.

This interactive model (Rumelhart, 1998) incorporates elements of both the 'top down' or psycholinguistic models and 'bottom up' approaches advocated by Gough and others. Reading depends on interaction with both the linguistic and conceptual contexts in which words occur.

Reading can also be understood as a meaning construction process. This concept can be conceptualised as a socio-cultural interactive model (Ruddell & Unrau, 1994). There are three major components in this model–the reader, the text and classroom context/teacher. Each of these components is in constant change as the reader constructs meaning. From the reader's perspective, motivation and attitude towards reading or 'affective conditions' influence the readers' interest in reading. The reader's cognitive conditions and the role of declarative, procedural and conditional knowledge are also essential in the construction of meaning as outlined earlier. This socio-cognitive model takes a constructivist perspective of the reading process (Paris, Lipson & Wixson 1994; Ruddell & Unrau, 1994) and is consistent with Rumelhart's interactive model.

Each of these models gives a unique perspective on reading. Stage models emphasise the importance of decoding in beginning reading whereas psycholinguistic theorists regard knowledge of the world and of language context as more important than knowledge of the printed word (Hall, 2003). Stanovich's notion of reading as 'constrained reasoning' (1992) may seem to reconcile 'top down' whole language theories and the 'bottom up' theories which focus on decoding and word identification. Word recognition or 'lexical

access' according to Stanovich, is the initial process followed by post-lexical processing. In other words if the words are not recognised, comprehension will not follow. Word recognition is a central and necessary process for efficient reading but not sufficient. Word recognition is a prerequisite for comprehension (Stanovich, 1992, 1995). This is also evident in Adam's model (1990) where the context processor depends on input from the meaning processor (i.e. the meanings of individual words) in order to construct a representation of the text.

The sections that follow explicate the different components of reading including word recognition, vocabulary, and fluency. Pedagogy in relation to each of these elements is addressed in Chapter 5.

DEVELOPMENTAL MODELS OF WORD RECOGNITION

Research suggests that children progress through developmental stages in word reading and word analysis ability (Ehri, 1995; Frith, 1985; Chall, 1983). For beginning readers, their developing word–recognition skills gradually leads to automatic processing of known words (Samuels, 1985). Many years ago Cattell (1886) discovered that readers could recognise a whole word more readily than a letter. Frith (1985) described this development in three phases: *logographic, alphabetic* and *orthographic* phases. Logographic refers to the use of visual or graphic features to read words; alphabetic refers to the use of grapheme-phoneme relations to process words and orthographic refers to the use of spelling patterns. Such a framework highlights the essential sub- skills involved in the reading process.

Frith (1985) divides the development of reading into three stages: logographic, alphabetic, and orthographic. The young child begins at the *logographic* stage by relying on the visual patterns of words for recognition. As this becomes inadequate, he moves on to the

development of *alphabetic* skills. Not all children will be able to detect the letter sound association in words and automatically 'pick up' the alphabetic code. They need explicit and direct instruction in letter knowledge and early focus on phonological knowledge. Finally, a level of grapho-phonemic knowledge is reached at the *orthographic stage* and the reader can apply the range of skills built up at each stage.

Ehri (1995) proposed a similar developmental model which comprises four phases of reading development to identify the significant advances that occur as children learn to read by sight. The four phases are *pre-alphabetic, partial alphabetic, full alphabetic* and *consolidated alphabetic.*

At the **pre–alphabetic phase** children do not make letter sound connections to make words – they rely on selected visual features. Children may 'read' environmental print from the contextual clues they notice but they are essentially non-readers. This stage corresponds to Frith's (1985) logographic stage.

As children learn the names and sounds of letters they progress to the **partial–alphabetic phase**. They will form connections between only some of the letters and sounds, often just the first and final letter sounds. During this transitional stage children do not have full knowledge of the alphabetic system: they cannot segment sounds and will have difficulty decoding unfamiliar words.

When children learn sight words and can make connections between letters in written words and the corresponding sounds in speech, they have reached a **full–alphabetic phase,** according to Ehri. In the full-alphabetic phase children use mainly grapheme phoneme connections correspondences to identify words. During this phase they may also use other strategies to process words.

The **consolidated–alphabetic phase** represents the child's growing knowledge and use of specific orthographic patterns, knowledge of morphological patterns and syllabic units.

Sight word–reading according to Ehri (1995), is used the most because it is fast and automatic. This is a process of reading words that have been stored in memory. She emphasised that all words become sight words once they have been read several times. Connections are created that link the written word with the sound, the concept and the meaning, and these words are stored in the reader's lexicon.

Adams (1990) also noted how children appear to recognise whole words at a glance. She explained how, in skilful readers, the mind works interactively and with as many clues as is deemed relevant. The parallel distributed processing model illustrates how readers visually process each and every letter and word of text as they read (Adams, 1990). As children are exposed to more and more words in a print-rich environment they build up a network of connections between letter sequences, letter patterns and associations between words. This speeds up the process of word recognition thus leading to more effective comprehension. In order to store sight words in memory, children have to connect graphemes to phonemes in the word and then retain these connections (Ehri et al., 2001). Adam's model is clearly different from the psycholinguistic model of reading described above in that the latter de-emphasises the phonological input that drives word reading.

Various ways to read words have been identified including by sight, by decoding, by using analogy of known words, by processing spelling patterns and by contextual guessing. Children's early rhyming ability has been shown to be an effective predictor of later success in reading (Bradley & Bryant, 1985). There is some debate in

the research literature as to the stage at which young children develop an ability to use analogy to recognise words. Studies which focused on the larger grained units of words such as syllables and the shared patterns of words suggest that children's ability to read words by analogy develops earlier than reading words by sequential decoding (Goswami, 1986; Goswami & Bryant, 1990). Subsequent studies examined the extent of a 'switching cost as children move back and forth between small unit and large unit processing 'grain sizes' (Ziegler & Goswami, 2005).

Wide ranging attempts to synthesise the literature on early reading development have been criticised for influencing the development of instructional programmes with a heavy reliance on code-focused instruction (Teale, Hoffman & Paciga, 2010). The research supports balance; balance in the elements which support early literacy development with due regard for language and vocabulary development, fluency and comprehension (Pearson & Hiebert, 2010).

VOCABULARY

Promoting vocabulary development with very young children

Vocabulary knowledge is a core component in language proficiency and provides much of the basis for how learners speak, listen, read and write (Carr, 2005). Snow and Oh (2011) consider it a reliable indicator of early and later literacy outcomes. For normally developing children, vocabulary is highly correlated with other indices of language knowledge. For instance, it is strongly associated with reading comprehension (e.g. Hirsh, 2003). Research indicates that listening comprehension is also highly predictive of overall academic success (Jalongo & Li, 2010). Sénéchal, Ouellette and Rodney (2006) point to two important facts in respect of vocabulary. Early individual differences in vocabulary goes some way in

explaining variances in children's success in reading comprehension; there is a positive relationship between vocabulary growth and phonological awareness, with vocabulary growth seen as resulting in a re-organisation of how words are stored in memory. Neuman (2011) makes a case 'for placing vocabulary at the forefront of early literacy instruction' (p. 358). In recent years there have been calls for more attention to be given to the development of listening skills so that children may be enabled to listen more attentively and extend their vocabularies (The Rose Report, 2006). Nunan (1997) argues, however, that listening is neglected in classrooms because it is regarded as the 'Cinderella skill' of language, taking second place to its sister skills of speaking, reading and writing (p. 238).

Neuman (2011) refers to what she terms 'the striking differentials in vocabulary between low-income children and their middle-income peers' (p. 358). By age 3, children from disadvantaged backgrounds hear only about one quarter of the words that their more advantaged peers hear (Hart & Risley, 1995). Further research with children of low-income backgrounds (e.g. Dickinson & Tabors, 2001) found that, for those children, opportunities to learn new or rare words were limited, both in the home but also sometimes in the preschool context.

In relation to vocabulary development in early childhood, a striking finding of the EPPE study in England (e.g. Sylva, Chan, Melhuish, Sammons, Siraj-Blatchford & Taggart, 2011) is that three quarters of the educational settings had not made any difference in growth in vocabulary. This prompted the authors to suggest that early education settings need to explore more effective means of supporting oral language development, for instance they suggest through peer play. They also suggest more frequent use of activities such as story discussion, informal discussion and recalling of shared experiences in order to further support important aspects of early literacy. Juel (2006) argues that vocabulary development is an area that requires 'intense

investment in instructional activities to foster it, and this investment has to extend from preschool on' (p. 412). She urges educators to carefully analyse word meanings in text with children. Harris, Golinkoff & Hirsh-Pasek (2011) suggest that by paying close attention to the ways in which children develop vocabulary and grammatical learning in the first few years of life, educators can learn important strategies for vocabulary development for children (3-8 years). They make some critical observations, for instance, children's comprehension leads production dramatically in the first year; a responsive adult who points things out in the environment and who honours children's communicative attempts is very supportive for babies' learning; embedding words in sentences is crucial to illustrate word meaning and influence the learning of grammar. Moving on from the earliest stages, toddlers and young children need to learn relational words such as verbs, adverbs, adjectives and spatial prepositions and these all need attention at the preschool level but, as Harris et al. (2011) observe, as with other aspects of language they are best learned in meaningful contexts and in sentences that are typical of children's everyday language. According to Harris et al. (2011, p. 52), a key observation from the literature is that

> *…when young children ask 'What is that?' they are more interested in what kind of thing it is–that is what its intended function is–than what it is called … vocabulary learning is not about learning words in isolation but about acquiring the concepts for which the words stand.*

Informal discussion would appear to offer a particularly good context within which to respond to children's interest in talking about, naming and learning about their world. Where children's initial interest is extended in the interaction with the adult and where new and increasingly complex words, language structures and meanings are introduced in interesting and playful ways, then the conditions

are favourable for children to develop increasingly complex vocabulary, syntax and grammatical structures, i.e. academic language.

FLUENCY

Fluency is an important part of skilled reading; without fluency, readers may be impeded in comprehending what they read. The US National Reading Panel in 2000 described fluency as the ability of readers 'to read orally with speed, accuracy, and proper expression' (NICHHD, 2000; section 3, p. 5). Nichols, Rupley and Rasinski (2009) expand on this definition by describing 'speed' as 'automaticity of word recognition' (p. 4), and expressive reading as 'reading orally with appropriate prosodic features such as expression, stress, pitch, and suitable phrasing' (p. 3). Rasinksi et al. (2011) state that reading fluency is 'a characteristic of reading that occurs when readers' cognitive and linguistic systems are developed to the extent that they can read with sufficient accuracy and rate to allow for understanding of texts and reflecting its prosodic features' (p. 287).

These definitions show how fluency is partly reliant on the skills used to recognise and read individual words quickly and accurately, and partly on the ability to use appropriate language conventions. It is suggested that readers first begin to read accurately, then with speed and then incorporate features of spoken language such as grammar and punctuation. In this way fluency can be both a predictor and an outcome. For example, word reading fluency, depending on whether it is measured by speed or accuracy, is thought to predict future reading fluency. In the beginning reader, fluency can be viewed as developmental in nature: it first refers to letter reading, then word reading and finally the reading of phrases, sentences and passages.

Reading fluency is also heavily influenced by the orthography of the language the reader is learning to read in. It is suggested that beginning readers in regular orthographies such as Dutch, Greek,

German and Finnish develop reading accuracy quickly due to the consistent letter sound relationship and simple syllabic structure of the language. The impact of orthography on reading fluency is mainly as a result of the impact of antecedent skills (e.g. phonological awareness), as mentioned above. The simple letter sound relationships in Finnish mean that beginning readers can quickly learn to read any word using their decoding skills, and have very high word reading accuracy soon after beginning to read. Even children with reading difficulties will achieve high reading accuracy but may not achieve fluency due to the slow speed at which they read. This presents a difficulty with comparing reading fluency across languages as many studies of reading ability measure accuracy or speed rather than accuracy *and* speed.

Theoretically, as with word decoding, recognition speed and accuracy improve, fluency develops, more cognitive resources become available for processing the meaning of what is being read, and comprehension improves. However, reading fluency is not only a result of word recognition skills, even though it is heavily reliant on them. As described by Nichols et al., (2009, p. 3), beginning readers learn to read orally with the features of spoken language such as 'expression, stress, pitch, and suitable phrasing'. Beginning readers learn these concepts through instruction from their teacher and experience of listening to and reading text. 'Thus, fluency helps enable reading comprehension by freeing cognitive resources for interpretation, but it is also implicit in the process of comprehension as it necessarily includes preliminary interpretive steps' (NICHHD, 2000; p. 36). And so it can be suggested that fluency is both a result of, and contributor to, the development of skilled reading. Thus, some aspects of fluent, expressive reading may depend on a thorough understanding of a text in the first instance. Other aspects–quick and efficient recognition of words and at least some aspects of syntactic parsing– appear to be prerequisites for comprehension. Note that fluent word

recognition is not a sufficient condition for successful reading comprehension and other variables that directly or indirectly influence language comprehension are also critically important determinants of variability in reading comprehension.

Reading fluency is thought to be dependent on the development of several different skills. Leppänen et al., (2008), for example, stress the importance of decoding skills in early reading development as they provide the basis for automaticity in word recognition and identification. Such decoding skills include letter knowledge, word knowledge, and the ability to name rapidly. Georgiou, Parilla & Papadopoulos (2008), in their study of predictors of word decoding and reading fluency across languages varying in orthographic consistency, found that phonological and orthographic processing contributed to reading skills, including fluency, in first and second grade Greek children. Leppänen, Aunola, Niemi & Nurmi (2008), in their longitudinal study of Finnish children, found that 'the best predictor of reading comprehension and reading fluency at the end of grade 4 was letter knowledge at the beginning of kindergarten' (p.559). A similar pattern was found in previous research by the same team in 2006, when they suggested that, at least in regular orthographic languages, letter knowledge is an important early antecedent skill of reading fluency in the beginning reader.

Some programmes define fluency more broadly than word reading. For example, the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) refers to initial sounds or onset fluency (preschool to kindergarten), letter naming fluency (kindergarten to first grade), phoneme segmentation fluency (kindergarten to first grade), nonsense word fluency (kindergarten to early second grade), and oral reading fluency (first to third grades).

The relationship between reading fluency and reading comprehension has been described as complex (Pikulski & Chard,

2005). According to Stecker, Roser, and Martinez's (1998) review of fluency research: 'The issue of whether fluency is an outgrowth [of] or a contributor to comprehension is unresolved. There is empirical evidence to support both positions' (p. 300). However, in the end they concluded, 'Fluency has been shown to have a 'reciprocal relationship' with comprehension, with each fostering the other' (p. 306).

COMPREHENSION

Comprehension has been described as the 'essence' of reading (Durkin, 1993). While the importance of reading with 'meaning' and 'understanding' underpins comprehension these terms are imprecise and open to interpretation (Kintsch, 1998). Reading comprehension is a complex process to pin down, involving as it does an interaction between the reader and the text in a variety of contexts and with multiple purposes (RAND Reading Study Group (RRSG), 2002; Lipson & Wixson, 1986). The RRSG report defines reading comprehension as 'the process of simultaneously extracting and constructing meaning through interaction and involvement with written language' (p. 11). Comprehension involves in the head processes, which are elusive and largely invisible, and products which are somewhat more visible (Harrison, 2004; Pearson, 2009; Pearson & Hamm, 2005). Pressley (2000, p. 551) drew elements of comprehension theory together when he described reading comprehension as beginning with the

> *decoding of words, processing of those words in relation to one*
> *another to understand the many small ideas in the text, and*
> *then both unconsciously and consciously, operating on the ideas*
> *in the text and the reader's response to those ideas, responses*
> *that often depend greatly on the prior knowledge of the reader.*

In this quotation, Pressley draws together much of the emphases in

the research literature on reading comprehension since the late 1970s (for a recent review, see Pearson, 2009). Drawing on and extending Pearson's (2009) use of metaphor (Dwyer, 2010, in press) the reader may be viewed as a *builder*, a *fixer*, an *assembler*, and as a *responder*. The metaphor of the reader as *builder* (Pearson, 2009) draws on schema theory where the reader draws on prior knowledge to make sense of the text (Anderson, 2004). Readers actively draw on prior knowledge to iteratively connect with, sift, refine and organise information to construct meaning from text (Anderson & Pearson, 1984; Pearson, Roehler, Dole, & Duffy, 1990). Readers draw on a range of prior knowledge sources in print-based texts including world knowledge (Anderson & Pearson, 1984), domain and topic knowledge (Alexander, 1992; Alexander, Jetton & Kulikowich, 1995), informational text structure knowledge (Armbruster, 1986; Goldman & Rakestraw, 2000), and linguistic knowledge (Anderson, Spiro & Anderson, 1978). These prior knowledge sources are supplemented when reading in an online environment with knowledge of the architecture of online informational text structure knowledge and internet application knowledge.

The reader as *fixer* (Pearson, 2009) draws on the reader as a metacognitive, self-regulatory, problem-solver, where the reader operates on ideas within the text and questions the text (Baker & Carter Beall, 2009; Baker & Brown, 1984; Paris, Lipson & Wixson, 1983). The process of generating questions heightens children's awareness of reading comprehension in a number of ways. Children who generate questions are more active and more involved in the reading process than those who merely answer teacher-generated questions (Singer & Donlon, 1982). Further, asking questions may sensitise the reader to pay selective attention in reading specific paragraphs and integrate information across texts read. The levels of questions asked enable children to build knowledge structures from text. Instruction in generating questions on narrative and

informational texts has impacted positively on reading comprehension (Palinscar & Brown, 1984; Raphael & Pearson, 1985; Rosenshine Meister & Chapman, 1996; Scardamalia & Bereiter, 1992; Singer & Donlon, 1982).

The reader as *assembler* draws on cognitive models, such as propositional models (Kintsch, 1998; Kintsch & van Dijk, 1978) and cognitive flexibility theoretical models (Spiro, Coulson, Feltovich, & Anderson, 2004). Kintsch for example, suggests that comprehension occurs at the surface, micro level, operating at a lexical and grammatical interpretation of information contained in the text and a text base macro level where the reader processes the surface level of the text with current reader knowledge and updates and elaborates this model to develop a situational model where the reader transforms the text into knowledge.

The reader as *responder* draws on reader-response theory (Rosenblatt, 1978) where the reader transacts with the text adopting an efferent or aesthetic stance and critical literacy theory (Comber & Simpson, 2001; Fabos, 2008; Muspratt, Luke & Freebody, 1996) where the reader assesses the accuracy, believability, currency, trustworthiness, depth, authority and author motive to source, corroborate and integrate information across multiple sources. Reader response, however, does not occur in a vacuum and social perspectives, such as socio-cultural and socio-constructivist theories relate to the reader, the text, the activity and the context within which reading response occurs (Smagorinsky & O'Donnell-Allen, 2000; RAND Reading Study Group, 2002).

Reading strategies and *reading skills* are at opposite ends of a continuum. Whereas strategies are effortful, deliberate, active, goal-directed, conscious and purposeful actions on the part of the reader to construct meaning from text, skills are characterised by automaticity, fluency, effortlessness and effectiveness, often without

the explicit conscious control of the reader (Alexander, 2006; Afflerbach, Pearson & Paris, 2008; Dole et al., 1991; Dole, Nokes & Drits, 2009; Pressley, 2000; Pressley & Harris, 2006). Reading strategies have been described as 'skills under consideration' (Paris et al., 1983 p. 295). Furthermore, it appears that the good reader has the ability to 'shift seamlessly' (Afflerbach et al., 2008, p. 371) between the automatic use of a reading skill to the effortful use of a reading strategy.

The literature attests to the fact that cognitive reading strategies can be taught (Duffy et al., 1987; Pressley, Johnson, Symons, McGoldrick & Kurita, 1989; Pressley et al., 1992; Rosenshine et al.,, 1996) and that strategy instruction leads to a concomitant rise in achievement in reading comprehension (National Reading Panel (NRP), NICHHD 2000; Shanahan, Callison, Carriere, Duke, Pearson et al., 2010). Despite the fact that informational text is ubiquitous in society, there is a paucity of informational text in primary schools (Duke, 2000; Duke & Pearson, 2002; Eivers, Close, Shiel, Millar, Clerkin et al., 2010 2009; Ogle & Blachowicz, 2002). The literature attests to the importance of the inclusion of a balance of genres, including both narrative and informational texts, from the earliest grades (Shanahan et al., 2010). Informational texts include domain specific vocabulary to convey concepts. Internal text cues, such as compare/contrast, generalisation/ example and problem/solution and external cues, such as table of contents, headings, visual images, and graphs may add to the complexity of reading informational texts if the reader is unaware of these text structures and the need to apply suitable skills and strategies in reading them (Kletzien & Dreher, 2004).

Teachers can scaffold readers to develop reading skills and strategies by adopting the gradual release of responsibility model (Pearson & Gallagher, 1983, updated by Duke & Pearson, 2002). Initially the teacher takes complete responsibility for demonstrating and modelling a strategy. This is followed by guided practice and a gradual release of

responsibility to the child where the teacher scaffolds the development of autonomy within the child, as the child takes responsibility for both activating and monitoring the use of a particular strategy. Strategies should be introduced and mastered singly. However, over time the child should develop a repertoire of strategies which they can independently orchestrate when reading (see Chapter 4 below for further discussion on pedagogy and comprehension).

In sum, good readers are strategic, motivated and set goals for reading. They are selectively attentive, make inferences, and integrate information across texts. They activate and connect with prior knowledge, attend to text structure, visualise, ask questions of the text, determine importance, critically evaluate as they read, retell information, summarise and synthesise as they read. They process text before, during and after reading (Afflerbach & Cho, 2009; Dole, Duffy, Roehler & Pearson, 1991; Duke & Pearson, 2002; Pressley & Afflerbach, 1995). Strategies can be taught using the gradual release of responsibility model. Comprehension strategies should be developed from the earliest levels of the primary school across a range of genres and modalities (both print and digital).

WRITING DEVELOPMENT

Emergent writers

From the perspective of young children, drawing and writing should be considered in many ways synonymous, since both provide a means by which young children can express themselves and communicate their ideas and feelings. A deeper link between the two is in the child's engagement with the process of the appropriation and use of symbols. In the case of play, children separate the 'meaning of objects from their physical form' (Bodrova & Leong (2006), p. 250). In the case of writing, the child uses symbols to stand for words and ideas.

Thus, for Vygotsky, the link between play and written language was an obvious one (Bodrova & Leong, 2006). From Vygotsky's perspective, drawing is seen as graphic speech that arises on the basis of verbal speech. As their understandings develop, children must come to understand 'that one can draw not only things but also speech' (1978, p. 115). From Vygotsky's perspective, this is a movement from first-order symbols i.e. drawing that directly denotes objects or actions, to the use of second-order symbols 'which involves the creation of written signs for the spoken symbols of words' (p. 115).

Vygotsky refers to the significance for symbolic development of children 'naming a drawing' (1978, p. 113). It is proposed that 'drawing provides a non-writing child with a temporary means to record his or her own stories and messages' (Bodrova & Leong, 2006, p. 251). Indeed, Moyles (1989) refers to drawing as a type of intellectual play. It is one stage in the process of moving from scribbles, to drawing of pictures, to including symbols as part of the graphic representation of an idea. The latter is the final stage in this process of learning to write and at this stage young children are able to select letters to represent sounds. They may use a mixture of invented spelling and conventional spelling.

It has been observed that 'recent research on children's drawings has moved from the psychological stance of describing children's drawings in terms of developmental sequences, to considering children's drawings as expressions of meaning and understanding' (Einasdotter, Dockett & Perry, 2010). A number of researchers (e.g. Kress, 1997; Ring, 2010) working a meaning-making perspective emphasise that drawing provides a way for children to discuss and communicate meaning and to explore and play with issues such as identity (e.g. Edminston, 2008; Hall, 2010). Discussion of a child's drawing is therefore an important strategy for understanding

children's meaning-making (Hall, 2010). This suggests that attention needs to be focused on children's narrative in different contexts (Ahn & Filipenko, 2007). For instance, narrative construction is a key issue when talking about the interrelatedness of play, drawing and writing. For educators, awareness of and familiarity with the themes of individual children's drawings develops sensitivity to when children are exploring similar themes in their drawing, their make-believe play or in other areas of learning (e.g. Ahn & Filipenko, 2007; Edminston, 2008; Ring 2010). Such multimodal exploration is believed to increase the depth and richness of children's meaning-making (Kress, 1997).

Researchers have noted the reluctance of some children especially young boys to engage with drawing (e.g. Anning & Ring, 2004). Such reluctance is significant in the light of the importance of the development of drawing for the development of written language. As a result of her professional development work with teachers of children aged 5-6 years, Ring (2010) advises the need for a 'playful approach' to drawing in classrooms. She draws on the work of Howard (2002) which emphasised that children must see an activity as play in order to maximise motivation, enthusiasm, freedom from fear, willingness and engagement. Working from this principle, Ring, and the teachers she worked with, found that making provision for large-scale drawing both indoors and out greatly increased the engagement of all children, especially those boys who had been reluctant to participate previously. Also, as a result of this study, it appeared that making continuous provision for drawing, accessible across several areas of learning, enabled children to draw on a regular basis. These are important findings since it may be that developing provision along the lines suggested here could contribute to an increase in the engagement of boys in developing symbolic language use.

While some authors advise educators that make-believe play contexts should be enriched with literacy artefacts (e.g. Makin, 2003), Bodrova and Leong (2006) caution that in terms of incorporating reading and writing into the play activities of children aged 3-4 years, this strategy should be preceded with many opportunities for children to gain experience with taking on roles, playing with unstructured materials, and engaging in extended verbal exchanges.

Vygotsky (1978) refers to the need to teach writing not as a motor skill but as a complex cultural activity. According to him, writing should be meaningful to children since:

> *only then can we be certain that it will develop not as a matter*
> *of hand and finger habits but as a really new and complex*
> *form of speech … drawing and play should be preparatory*
> *stages in the development of children's written language.*
> (1978, p. 118)

Particularly influential then in terms of thinking about literacy as representation is the Vygotskian notion that '…make believe play, drawing and writing can be viewed as different moments in an essentially unified process of development of written language' (1978, p. 116).

Developing writers

As children move from representing their thinking through play, drawings and mark making in various modalities they begin to use their developing orthographic knowledge in representing their thoughts and ideas. As noted below (see spelling), they move through predictable recursive stages of spelling development. Insights into the act of writing have come from the examination of the processes of accomplished adult writers and from qualitative studies involving children and teachers, such as those by Graves (1983, 1994), Calkins

(1986) and Atwell (1998). The Hayes-Flower model of writing (1980) and the revised Hayes (1996) model have endeavoured to depict the relationships between the various processes, in models that capture the complexity of the act of writing. The physical and social influences that impact on the writer are conceptualised as the task environment. The major cognitive processes involved in writing: planning, translating (text generation) and reviewing (revising and editing) are included in the models as is the central role of working and long-term memory. Affective and motivational factors are also seen as major influences on the writing process. As Hayes (1996, p. 5) suggests, 'writing is a communicative act that requires a social context and medium. It is a generative activity requiring motivation and it is an intellectual activity requiring cognitive processes and memory' and this is true for children as well as for adults. Berninger and Swanson (1994) adapted the original Hayes–Flower model to illuminate the processes of writing and the particular challenges they can pose for children (see figure 3.1). As can be seen, three major influences on the writing process are depicted: affect, motivation and social context.

Figure 3.1 Berninger and Swanson's (1994) adaptation of the Hayes-Flower model (1980)
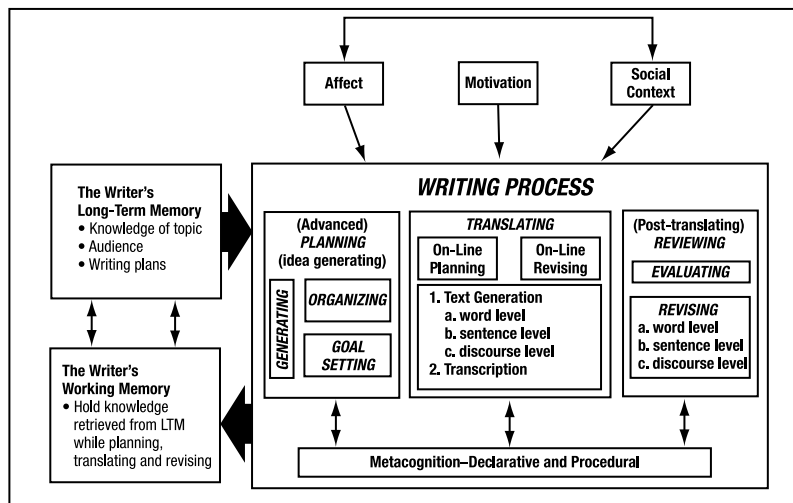
Firstly, children's self-confidence and self-beliefs influence how they will approach the act of writing. Those with strong feelings of self-efficacy will respond well to the challenge. Berninger and Swanson argue that young children face particular challenges in the planning, translating and evaluating stages of writing. At the translation stage, depending on their stage of development, children are still grappling with transcription (physical formation of letters) and the basic skills involved in writing words, sentences and paragraphs and the capacity of their working memory is affected. How adept they are at these aspects depends on how automatic and fluent their phoneme-grapheme knowledge is and how large their bank of sight vocabulary is. The less developed and automatic these elements are, the more demanding will be the act of capturing their thoughts on paper. The effort involved in sounding out and recalling the shape of the target letter or word and putting it on paper can be especially demanding for young children (depending on their stage of development) to the extent that they may have less capacity available to them to engage in planning and in revising writing and it may affect output. Putting strategies in place to help children with these mechanical aspects of writing is essential and can free them up to concentrate on the content of their writing. By communicating to children that the most important element of writing is the communication of their thoughts and ideas and that lower level skills such as grammar, spelling and punctuation can be dealt with when publishing can relieve anxiety and increase children's confidence. Evaluating one's writing is a higher-level skill and requires a sense of audience. Accomplished writers consider their choice of words and add and delete sentences and paragraphs as they try to shape the writing to match the original intention seen in the mind's eye. These processes may not come naturally and may require repeated explicit demonstrations for children with plenty of opportunities for practice and experimentation. As has been outlined in relation to reading

development, developing strategies for each process of writing (choosing topics, planning, drafting revising and editing) and for mechanical aspects to the conditional metacognitive level is essential for self-regulation and for storage in long-term memory so that they can be utilised when the need is perceived.

SPELLING DEVELOPMENT

Spelling is now viewed as an integral part of the orthographic knowledge that underlies efficient, automatic generation of words during *writing*, and efficient, automatic perception of words during *reading.* Investigations from a variety of disciplines suggest that children construct knowledge about words specifically and about spelling patterns more generally. Learners then draw upon this core knowledge in both reading and writing. Based on their theories of how words work in print, children, over a period of years, develop orthographic (visual) representations for words. These evolve to include *alphabetic knowledge, patterns of letters, syllable patterns,* and *meaning elements,* drawing on considerable experience with meaningful reading and writing. This signifies a developmental model of spelling acquisition whereby learning to spell involves understanding progressively more abstract relationships that start at the level of individual letters and sounds, and gradually advance through pattern and meaning. This perspective emphasises that although most children can learn to become competent spellers, they will do so at differing times as they go through different developmental stages. Children learn that, even though English is not perfectly regular, there is logic to the system, and they see and remember the exact details of the words (Henderson, 1990).

There is evidence that the process of *writing* words and the process of *reading* words draws upon the same underlying base of word knowledge (Ehri, 1993). The more pupils know about the structure of words – including their spellings – the more efficient and fluent their reading will be (Gentry, 2000). Therefore, spelling knowledge can be viewed as a driving force behind efficient reading as well as efficient writing.

Through extensive research over the past 25 years, drawing on examples of children's writing at various stages of development, it is now apparent that, although memory plays an important role in learning to spell, it is not the only process (Templeton & Morris, 2000). In addition to engaging memory, learning to spell should also be seen as a process of gradually understanding how words work – the conventions that govern their structure and how their structure signals sound *and* meaning. Spelling is thus a thinking process which involves the beginner speller trying out different strategies appropriately, in order to spell written words correctly. To achieve this, the child learns to classify, hypothesise, generalise, and look for patterns and relationships, and seeks to understand the connections between meaning and spelling.

Key to an understanding of the structure of spelling (and, by implication, development in children's spelling) are the following sources of knowledge:

- *Alphabetic understanding for spelling* (the 'Alphabetic Principle')– alphabetic understanding is the insight that, for many words in English, spelling is primarily left–to–right, a linear matching of sounds and spelling e.g. *m-a-t* (mat), *s-c-r-a-p* (scrap), *s-t-o-p* (stop).

- *Phonemic awareness*–the ability to reflect on and manipulate the sounds in oral words, which is important for the development of

both reading and spelling. A child who can segment the oral word *mat* into */m/ /a/ /t/* or rush into */r/ /u/ /sh/* shows some evidence of phonemic awareness. Moreover, this skill is likely to be highly useful in transforming spoken words into their spellings. A number of programmes have been developed to teach phonological awareness skills to children with difficulties in this area (e.g. Adams, 1990).

- *Knowledge about letter patterns*–letter patterns provide information about: (a) the sounds within a syllable (for example, a long vowel sound is signalled by a silent 'e' as in scrape or ice); and (b) patterns governed by syllable divisions such as the open (C)V/CV pattern (e.g. *ho/tel; pi/lot)*, and the closed VC/CV pattern (e.g. *kit/ten; scrap/ped*). Again, this knowledge is important for both reading and spelling.

- *Knowledge about the visual representation of meaning*–an understanding that meaning is preserved among words that are members of a spelling meaning family is important. The spelling meaning layer provides information through the consistent spelling of meaning elements within words despite sound changes (e.g. please/pleasure).

There are several stage models of spelling development (e.g. Bear & Templeton, 1998; Gentry, 1982, 2000). Each stage represents how the speller conceptualises inventing spelling in qualitatively different ways throughout his or her spelling development. Here, the stages in Gentry's model are briefly described. According to Gentry (2000), these stages grew out of Piagetian theory and the notion that aspects of cognitive development proceed by way of qualitative stage-like change. Gentry adds that the sequence of spelling development implied by the stages should be expected to increase with age, but a range of spelling abilities may be displayed at any given age.

Nevertheless, the stages are qualitatively different (e.g. HIDC, E, EGL, EGUL, AND EAGLE). The following stages have been proposed by Gentry:

- *The pre-communicative stage*–here the speller demonstrates some knowledge of the alphabet through production of letter forms to represent a message. The speller demonstrates no knowledge of letter-sound correspondences as spelling attempts appear to be a random string of alphabet letters, with which the writer is familiar. The speller may include symbols, and may or may not reflect knowledge of left-to-right directionality. Early attempts at spelling may include uppercase forms only. Examples: SSHIDCA, TAHTL.

- *The semi-phonetic stage*–in this stage, the speller begins to conceptualize that letters have sounds which are used to represent sounds in words. The letters in the child's spellings reflect a partial phonetic representation, with one, two or three letters selected to represent the whole word. The child still employs a letter-name strategy, with words, sounds or syllables represented by their adjacent letter names. The semi-phonetic speller begins to grasp the left-to-right sequential arrangement of letters in English orthography. Alphabet knowledge and mastery of letter-sounds becomes more complete. Word segmentation may or may not be apparent. Examples: RUDF (Are you deaf?); HAB (happy); OD (old).

- *The phonetic stage*–the child is able to provide a total mapping of letter-sound correspondence, as all of the surface sound features of the word being spelled are represented in the spelling. Children develop particular spellings for certain details of phonetic form: tense vowels, lax vowels, pre-consonantal nasals, syllabic sonorants, -ed endings, retroflex vowels, affricates and intervocalic flaps. Letters are assigned strictly on the basis of sound, without regard

to acceptable English letter sequence or other convention of English orthography. Word segmentation and spatial orientation are generally, but not always, in evidence during this stage. Examples: EF U CAN OPN KAZ I WIL GEV UA A KN OPENR (If you can open cans, I will give you a can opener); PAULZ RABR SAF RABRZ AKNT GT EN (Paulo's robber safe. Robbers can't get in).

- *The transitional stage*–transitional spellers adhere to the basic conventions of English orthography: vowels appear in every syllable (EGUL instead of the phonetic EGL); nasals are represented before consonants (BANK for the phonetic BAK), both vowels and consonants are represented, instead of a letter-naming strategy (EL rather than L in the first syllable of elephant); a vowel is represented before syllabic R, even though it's not heard or felt as a separate sound (e.g. MONSTUR instead of MONSTR); common English letter sequences are used in spelling (YOUNITED for united, STINGKS for stinks); vowel digraphs such as ai, ea, ay, ee and ow appear; and silent e pattern becomes fixed as an alternative for spelling long-vowel sounds (e.g. TIPE for type); and inflectional endings like -s and -est are spelled conventionally. Transitional spellers also show evidence of moving from phonological to morphological and visual spellings (e.g. EIGHTEE instead of ATE (eighty). Due to use of a visual strategy, transitional spellers may include all appropriate letters, but may reverse some (e.g. TAOD for toad, HUOSE for house). Transitional spellers differentiate alternate spellings for the same sound (e.g. a sound may be spelled as EIGHTE (eighty), ABUL (able) RANE (rain) and SAIL (sale). They generally use learned words (correctly spelled words) in greater abundance. Examples: THES AFTERNEWN IT'S GOING TO RAIN. IT'S GOING TO BE FAIR TOMORO. FAKTARE'S (factories) CAN NO LONGER OFORD MAKING PLAY DOW (dough).

- *The correct (conventional spelling) phase*–spellers in this stage have a knowledge of the English orthographic system that is firmly established. Knowledge of word environmental constraints (i.e. the graphemic environment in the word; position in word, and stress). They show an extended knowledge of word structure including accurate spelling of prefixes, suffixes, contractions and compound words, and ability to distinguish homonyms. They demonstrate accuracy in using silent consonants, and in doubling consonants appropriately. They can employ visual identification of misspelled words as a correction strategy. They can master Latinate forms and other morphological structures, and can accumulate a large corpus of learned words.

The stages are useful because they provide teachers with a tool that can be used to plan spelling instruction, and assess the quality of children's spellings in the early years (discussed in subsequent chapters of this review).

The stages of development for spelling can be compared with those outlined elsewhere for reading. For example, Gentry's pre-communicative, semi-phonetic and phonetic correspond to the emergent/pre-alphabetic, partial alphabetic, and full alphabetic stages respectively in Ehri's (1995) model of reading development. Similarly, Gentry's transitional stage incorporates elements of the consolidated alphabetic phase in Ehri's model.

HANDWRITING

Although much attention has been focused on beginning reading interventions for young children at risk of reading disabilities, research on writing instruction remains an emerging area of research (Edwards, 2003). In fact, it may be said that handwriting has a low status and profile in literacy education and in recent years has attracted little attention from teachers, policymakers or researchers

into mainstream educational processes (Medwell and Wray, 2007; Graham, Harris & Mason, 2005). It is well recognised that a significant number of children experience writing difficulties throughout their schooling. This includes children with general learning disabilities (GLD); attention deficit hyperactivity disorders (ADHD), Specific Learning Disabilities (SLD); autistic spectrum disorders (ASD) and those with emotional behavioural disorders (EBD).

The research indicates that a higher ratio of males to females experience these difficulties and it is likely that their handwriting difficulties will impact upon their ability to compose written language. There is also evidence that explicit systematic instruction can improve not only the handwriting of these children but also their written composition (Medwell & Wray, 2007).

It has been established that handwriting is not merely a motor skill but that visual–motor integrations skills together with memory processes contribute more to handwriting than do motor skills (Berninger & Graham, 1998; Berninger & Amtmann, 2004). In addition, visual motor integration accounts for more than 50% of the variance in written language performance in young children going as high as 67% in the 7-8 year old age group. (Jones & Christensen, 1999; Graham et al.,1997). There is now a growing body of research suggesting that handwriting is critical to the generation of creative and well-structured written text and has an impact not only on fluency but also on the quality of composing for young children (Berninger & Swanson, 1994; Graham et al., 1997)

Because text transcription skills require such mental effort on the part of young children, writing development can be constrained since they minimize the use of other writing processes, such as planning, which exert considerable processing demands (McCutchen, 1988).

This in itself creates barriers to the integration of new attention demanding skills and strategies in their approach to writing. However, explicit and systematic instruction can provide struggling writers with planning strategies which in turn improves writing performance (Graham, Harris & Mason, 2005; Saddler, Moran, Graham & Harris, 2004). In addition, specific instruction in spelling and handwriting can enhance sentence construction and writing output (Berninger et al., 1997; Berninger & Swanson, 1994; Jones & Christensen, 1999; Graham et al., 2000; Graham, Harris & Fink-Chorzempa, 2002).

The capacity of working memory is particularly associated with the literacy scores of younger children. If they have to devote large amounts of working memory to the control of lower level processes such as handwriting there is little working capacity left for higher level processes such as the generation of ideas, vocabulary selection, monitoring the progress of mental plans and revising text against these plans. One solution proposed to the problem of limited working memory capacity is to make some processes such as handwriting, automatic, in order to free up cognitive resources to deal with higher level processes.

DIGITAL LITERACY

There is extensive evidence that young children are, from birth, immersed in a media and technology-rich environment. In the UK, Marsh et al. (2005) conducted a survey of 1,852 parents of children aged from 0-6 in 10 local authorities in England in which young children's use of popular culture, media and new technologies was identified. The Digital Beginnings study concluded that many young children were competent users of technologies from an early age and that parents felt that children developed a wide range of skills, knowledge and understanding in this use. Plowman, McPake and Stephen (2008; 2010) report on a study conducted in Scotland in

which they surveyed 346 families in Scotland and conducted 24 case studies of young children's use of technology in the home. This study identified that children and parents were active users of technology and that patterns of interaction differed across families due to a range of factors, such as parents' attitudes towards and experiences of technology, and that an increase in technological items in the home does not necessarily relate to amount of use of technology by children. This work resonates with a study conducted in the USA which indicated that children under the age of 6 are immersed in technology from birth (Rideout, Vandewater & Wartella, 2003).

In a recent review of research in this area, Burnett and Merchant (in press) identified three themes that emerged. The first relates to the significance of family members supporting young children's digital literacy development. Studies in homes in the early years of childhood have identified how parents, carers and other family members support children's development of digital literacy. Flewitt (2011) conducted a study of children's (3-4 years) multimodal practices in the home in which they moved competently across a range of media, including computers, televisions and electronic toys. She found that parents' supported their children's emergent digital literacy skills and knowledge, providing appropriate scaffolding that enabled them to engage with a wide range of texts. Similarly, in the Plowman, McPake and Stephen (2010) study, interactions with children and technologies in homes was contrasted with their interactions in early years settings and they found that children's engagement with technologies was more extensive in homes, supported by parents through 'guided interactions'. Davidson (2009) conducted a microanalysis of a child and parent's interactions in the use of the computer and found that the parent was able to provide support at the point of need. This research suggests that many parents already have implicit understanding of their children's needs with

regard to digital literacy development, but there is a need to extend this understanding through appropriate family literacy programmes that attend to both print and screen-based texts. The second theme that emerged was how children transfer understandings and experiences across modes. For example, Smith (2005), Pahl (2005) and Wohlwend (2011) demonstrate how children draw on characters and narratives embedded in their use of media in their play, re-contextualising their knowledge in the production of multimodal texts. The third theme Burnett and Merchant identify is the active engagement of children as they make meaning with digital media. Much of young children's use of digital technology can be characterised as active, creative and playful in nature (Marsh, 2010a; Willett, Robinson and Marsh, 2009) as it offers potential for children to engage as '*produsers*' (Bruns, 2006), to re-mix and mash-up cultural content in the production of new texts (Lankshear & Knobel, 2006).

At the end of the 20th century, children's engagement in media texts at home was conducted primarily alone or with family members and immediate friends, but the 21st century has seen increased opportunities for engaging in communication with unknown others through the use of online social networking sites. One example of this phenomenon is young children's increasing use of online virtual worlds. Online virtual worlds are immersive 2-D or 3-D simulations of persistent space in which users adopt an avatar in order to represent themselves, and interact with others. They may or may not include game elements. It has been estimated that there are now over 200 virtual worlds, either operating or in development, which are aimed at children and young people under eighteen (KZero, 2011). Worlds particularly popular with children aged 8 and under currently include Webkinz, Neopets and Club Penguin. In a study of children's (5-11 years) use of virtual worlds, it was found that of 175 children completing a survey, 52% reported using virtual worlds on a regular basis (Marsh, 2011). A range of literacy practices is involved in the

use of these virtual worlds. Children engage in instant messaging using chat facilities and can also send each other postcards, and read in-world texts or instructions for games (Marsh, 2010b). Multimodal skills are developed as users navigate complex screens and integrate different modes when they read the various in-world texts.

Other social networking activities occur in the context of young children's daily lives, such as the use of mobile phone text messaging, instant messaging services and chatrooms, with adults acting as scribes (Marsh et al. 2005). All of these encounters offer children a broad perspective on literacy, which emphasises its function as a social and cultural practice. It is, therefore, important for early years' settings and schools to embed these uses of literacy into the curriculum in order to ensure continuity between home and school domains (Marsh, 2010c).

Summary

Research on the acquisition of literacy was examined, with specific reference to the key components including word recognition, vocabulary development, fluency, comprehension and the development of writing and spelling, as they relate to processing of print and digital texts.

Early models of the reading process give a unique perspective on reading and emphasise an information processing approach. An interactive model of reading incorporates elements of both bottom-up and top-down approaches and proposes to describe and explain how the perceptual and the cognitive processes in reading interact (Rumelhart, 1994). The stages of word recognition outlined by Frith (1985) and the phases of reading development outlined by Ehri (1995) were described.

Vocabulary knowledge is a core component in language proficiency

as it relates to literacy development. Attention was drawn to individual differences in vocabulary development among young children and research by Neuman (2011) which focused on the need to place vocabulary at the forefront of early literacy.

Reading fluency is dependent on the development of several different skills (Leppänen et al., 2008). Fluency in reading also supports the development of reading comprehension; however, the relationship between the two is complex. Influencing factors include skill in word recognition and the orthography of the language in question.

The work of Pressley and other researchers has contributed to the understanding of the importance of reading comprehension. Although this body of research does not specify stage models of development, the reader could be conceptualised as a 'builder' or 'fixer' of meaning (Pearson, 2009), as an 'assembler' drawing on Kintsch's situational model (Kintsch, 1998), and as a 'responder' in line with reader–response theory (Rosenblatt, 1978). A wide range of reading strategies can be taught using a gradual release of responsibility model (Pearson & Gallagher, 1983).

The development of writing is delineated, beginning from the early stages of emergent writing involving symbolic drawings arising from play and social interaction to more independent expression. Children gradually use their developing orthographic knowledge to represent their thoughts and ideas. The importance of using a writing process approach was outlined.

A subsequent section on spelling development can be read in conjunction with the earlier section on word recognition and the phases of development of reading as there is commonality across the phases outlined. Handwriting in general, and cursive writing in particular, is identified as being important in supporting the

generation of well-structured written text and also affects fluency of writing.

Children are active users of technology in their everyday lives across a range of media, and this can be described as both creative and active. It also offers potential for children to engage as *produsers* (Bruns, 2006) as they create new texts. The chapter carefully discusses the importance of ensuring continuity between home and school by embedding these developing digital literacies among teachers and children in early years' settings and schools (Marsh, 2010c).

CHAPTER 4:

LITERACY

PEDAGOGY

According to research, what are the features of good literacy pedagogy for children aged 3-8 years:
a. at teacher/classroom level?
b. at school level?
c. through partnerships with parents and the wider community?

The first section of this chapter provides a broad review of research on teaching reading. In subsequent sections, research-based strategies for teaching specific aspects of literacy are outlined. These aspects include early literacy practices, vocabulary, word recognition, fluency, reading comprehension, digital literacy, and writing.

REVIEW OF THE RESEARCH: TEACHING READING LITERACY

This section seeks to summarise the outcomes of recent studies of effective approaches to reading instruction for children in the 3–8 years range. Three reports focus in particular on the early years:

- The US National Early Literacy Panel Report, *Developing Early Literacy* (NELP, 2008) which identifies effective literacy strategies for children in the 0-5 years age range.

- The UK report, *Independent Review of the Teaching of Early Reading* (DfES, 2006), which looks at the role of systematic phonics in teaching reading to children in the early years of formal schooling.

- The US What Works Clearinghouse Guide, *Improving Reading Comprehension in Kindergarten through Third Grade* (Shanahan et al., 2010), which details effective approaches to teaching reading comprehension in the early grade levels.

A further three reports have a somewhat broader age focus, though they incorporate some findings that are relevant to children in the 3-8 years range:

- The European Eurydice Report, *Teaching Reading in Europe: Contexts, Policies and Practices* (Eurydice, 2011), which summarises research on the effective teaching of reading to children in the 5-15 years age range.

- The UK EPPI-Centre (University of London, Institute of Education) report, *A Systematic Review of Effective Literacy Teaching in the 4-14 Age Range of Mainstream Schooling* (Hall & Harding, 2003)

- The US National Reading Panel Report, *Teaching Children to Read* (NICHHD, 2000), which deals with the effective teaching of reading in elementary (primary) schools, i.e. kindergarten to grade 6.

A feature of these reports is that they draw on evidence-based research to arrive at conclusions about effective approaches to teaching reading. In most instances, this involves conducting a meta-analysis of relevant research studies and calculating effect sizes. This enables researchers to combine the results of different studies addressing the same topic. However, the criteria for including a study in a meta-analysis can be quite strict, meaning that some important studies may be left out, or, more seriously, aspects of reading or literacy which have not been subject to experimental research of the type favoured by meta-analyses may not receive the attention they deserve. Nevertheless, when taken together, the outcomes of meta-analyses can point to aspects of the teaching of reading that should be considered further. The areas investigated by these reports are outlined in table 4.1.

Table 4.1: Areas addressed by key reports on effective reading instruction practices

	NELP	Rose	Reading Comp. 3-8	Eurydice Reading	Sys-tematic review	Nat. Read. Panel
Oral language-enhancement interventions	■					
Shared reading	■					
Phonemic awareness	■	■		■		■
Phonics instruction	■	■		■		■
Reading fluency				■		■
Reading vocabulary				■		■
Reading compre-hension strategies			■	■		■
Balanced literacy				■	■	
Engagement/ motivation/ self-regulation			■	■	■	

The results of the analyses can be summarised as follows:

1. Instruction in oral language can improve young children's oral language proficiency (e.g. vocabulary development, syntactic sophistication, listening comprehension) as well as aspects of reading literacy (e.g. phonemic awareness, print knowledge) (NELP, 2008). Such interventions are more effective with younger children than with older children, and are beneficial across a range of socioeconomic groups.

2. Shared-reading practices – a parent reading a picture book with a toddler or a teacher reading a book to a class or group of older children – have a strong effect on oral language (e.g. grammar, the ability to define vocabulary, listening comprehension), which, in turn, is associated with later reading comprehension (NELP,

2008). Effect sizes tended to be greater for dialogic reading[1] than for less interactive forms of shared reading.

3. Code-based instruction focusing on alphabet knowledge or phonemic awareness can impact on a range of literacy outcomes, including phonemic awareness itself, print knowledge, spelling, writing, and, to a lesser extent, oral knowledge (NELP, 2008; NICHHD, 2000). Such instruction can be effective for preschool children as well as children in the early years of formal schooling. Phonemic awareness instruction does not need to be prolonged to be effective. Largest effect sizes (1.37) were found in studies in which instruction lasted between 5-9.5 hours in total. Systematic phonics instruction can also support the development of reading, spelling and writing (NELP, 2008; NICHHD, 2000; Rose, 2006).

4. Reading instruction that is code-based should be balanced with instruction that focuses on aspects of reading for meaning (Eurydice, 2011; Hall & Harding, 2003) so that reading instruction is balanced. Systematic phonics instruction within a broad literacy curriculum appears to have a greater effect on children's progress in reading than whole language or whole word approaches. There is currently no strong evidence that any one form of phonics instruction (synthetic or analytic) is more effective than any other (Torgerson, Brooks & Hall, 2006). Systematic phonics instruction should be part of every literacy teacher's repertoire and a routine part of literacy teaching. It is advised that teachers who do not use systematic phonics in their teaching should add it to their routine practices (Torgerson et al., 2006).

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1   Dialogic reading occurs when an adult reader asks the child or children questions about the story or the pictures in the book and provides feedback to the child or children in the form of repetitions, expansions, and modelling of answers. In dialogic reading activities tend to be more interactive than other forms of shared reading.

5. Guided repeated oral reading can have a positive effect on reading fluency (and also on word recognition and reading comprehension) (NICHHD, 2000). On the other hand, silent reading practice does not appear to have a direct impact on reading fluency (NICHHD, 2000), though it has other positive effects.

6. There is some evidence of positive effects of instruction in reading vocabulary on reading comprehension (NICHHD, 2000). The best gains can be made when instruction extends beyond a single class period and involves multiple exposures to the same words (NICHHD, 2000).

7. Direct instruction of reading comprehension skills using a gradual release of responsibility instructional model can have positive effects on young children's reading comprehension (NICHHD, 2000; Shanahan et al., 2010; Hall & Harding, 2003). This model involves extensive teacher modelling of a strategy early in the instructional cycle, and increased child responsibility for implementing the strategy later in the cycle (Duke & Pearson, 2002; Pearson & Gallagher,1983).

8. Reading comprehension instruction can be effective where strategies are taught one-by-one or as part of a multiple-strategy packet. Individual strategies include: activating prior knowledge/ predicting, questioning, visualising, monitoring, clarifying and using fix-up strategies, drawing inferences, summarising and retelling. Multiple strategies include: reciprocal teaching, transactional strategy instruction, informed strategies for learning, and a concept-orientated reading instruction model (CORI).

9. There is also some evidence for the effectiveness of instruction designed to familiarise young children with the structure of narrative and informational texts (Shanahan et al., 2010).

10. Approaches to reading comprehension that engage children in discussion of texts can also be effective (Hall & Harding, 2003; Shanahan et al., 2010). Discussion should emphasise a range of cognitive processes, such as locate and recall, integrate and interpret, and critique and evaluate.

11. Teachers should establish engaging and motivating contexts in which to present comprehension instruction (Hall & Harding, 2003; Shanahan et al., 2010). Characteristics of such contexts include identifying texts on topics in which children have an interest; providing limited and specific choice of texts; and allowing children to choose how to respond to text.

MAKE-BELIEVE PLAY AS A SPRINGBOARD TO LITERACY

Morrow and Schickedanz (2006) observe that we lack evidence for a causal relationship between play and literacy and that this is mainly due to the limitations of research and to the shifting theories of the role of the adult in play. However, such is the weight of theoretical support for a strong relationship between the two that it has long been acknowledged that 'both situated learning and formal school learning are needed' to provide support for young children's literacy learning (Neuman & Roskos, 1997, p. 32). A recent review of connections between play and cognitive development and early literacy development concluded that while pretend play can have an important role in learning, the foundations for successful literacy acquisition can be learned in other ways also (Smith, 2007). However, it is conceded that for young children play has a motivational advantage (Christie & Roskos, 2007). A 'blended' early literacy programme which includes both play and formal instruction is seen as a means of ensuring that all children have access to the range of ways of developing early literacy skills (Roskos & Christie, 2010). Hatch and Benner (2011) urge that in thinking about pedagogical

approaches in early childhood education we think not in terms of binary opposites but in terms of complementarities. So taking that perspective in relation to the development of early literacy, the argument is not whether a play approach or an academic skills approach is better. Rather we need to think about the complex ways in which the different approaches or indeed perspectives might interrelate to promote optimal early literacy development. The question then is not about what approach is better, rather it is about deciding how and in what way the elements of the different approaches best serve the interests of young literacy learners.

Bodrova (2008) discusses make-believe play in the context of academic learning in general and literacy learning in particular. She considers that one of the challenges facing early childhood educators today is the pressure to start teaching academic skills at a progressively younger age. She suggests that in the play of a child aged 4 years, one can observe higher levels of such abilities as attention, symbolising and problem solving than in other situations as compared to their mastery of academic skills. She goes on to state that

> *each of three components of play – imaginary situation, roles and rules – has an important role in formation of the child's mind, in affecting the development of children's abstract and symbolic thinking, their ability to act internally or on an 'internal mental plane' and their ability to engage in intentional and voluntary behaviors.* (2008, p. 361)

She asserts, from a Vygotskian perspective, that young children can master the necessary prerequisites for academic work through engagement in mature make-believe play. By mature play she means play which is:

> *characterized by the child's use of objects substitutes that may bear very little if any resemblance to the objects they symbolize: they use a stick as a horse or a box as a train car. In a similar way, children use gestures to represent actions with real or imaginary objects. Second characteristic of mature play is the child's ability to take on and sustain a specific role by consistently engaging in actions, speech and interactions that fit this particular character. The more mature the play, the richer are the roles and relationships between them. Another sign of mature play is the child's ability to follow the rules associated with the pretend scenario in general (playing hospital versus playing school) and with a chosen character in particular (playing a doctor versus playing a teacher). Yet another characteristic of mature play is high quality of play scenarios that often integrate many themes and span the time of several days or even weeks.* (Bodrova, 2008, p. 364)

In addition, children engaging in make-believe play develop the ability to think abstractly and symbolically and to self-regulate their responses. Indeed, Vygotsky himself referred to symbolic play 'as a very complex system of speech through gestures that communicate and indicate the meaning of playthings' (1978, p. 108). For him symbolic representation in play is essentially a particular form of speech at an earlier stage, one which leads directly to written language (p. 111). Young children communicate very effectively with others through play, for instance in co-constructing narratives. Narrative conversation about/in play is very important (Morrow & Schickedanz, 2006).

The implications of this for practice is that educators must scaffold children's make-believe play by using very specific strategies which promote critical understandings related to the key components of imaginary situation, roles and rules. Bodrova (2008) argues that

because play affects oral language development, development of metalinguistic awareness and the development of imagination it therefore impacts on early literacy skills. Furthermore, she asserts that in providing unique opportunities for young children to understand the authentic purpose of reading and writing and to practice reading and writing skills in a meaningful context, play is a key context within which to develop early literacy. She sees the systematic intervention in play by adults as essential to promote the development of the key abilities discussed earlier. Such intervention involves specific strategies to scaffold critical play components. Bodrova (2008) delineates the following strategies: using toys and props in a symbolic way; developing consistent and extended play scenarios; being able to take on and to stay in a pretend role for an extended play episode or a series of play episodes; and being able to consistently follow the rules determining what each pretend character can or cannot do in addition to promoting general foundations for learning academic skills in an early education settings. Morrow and Schickedanz (2006) question how playing with literacy objects and routines in socio-dramatic play might affect children's interest in explicit teaching of literacy in teacher-directed contexts, perhaps making them more interesting to young children.

STORYBOOK READING AND DISCUSSION

Rowe (2007) observed how the very young middle-class children (2-3 years) in her study connected book-reading experiences with play by seeking out and holding related toys and props during subsequent re-readings of stories. She suggests that the holding of the objects may have served to enable the children to concentrate better on the comprehension and response aspects of the story experience. In addition, she suggested that the holding of the objects allowed children to connect the books with familiar experiences and that they also served as prompts for future play activity related to the

stories. In Rowe's study, children's responses to books were often seen to incorporate physical playfulness in both their activities and in their talk about the story. Children's re-enactments of stories appeared to serve as ways of helping them comprehend the meanings inherent in the story. Improvisational book-related play was also used by these children to further their understandings of the characters in the story and sometimes to address the world from the perspectives of story characters. In addition, while children often used play to explore the world constructed by authors, Rowe's analysis suggested that they often used book-related play opportunities to explore questions regarding broader issues arising in their everyday worlds. Rowe (2007) connects book-related dramatic play during the emergent reading stage to the reading and response processes so important in conventional reading in the statement that 'dramatic play may be seen not only as a context for reflecting on books, but also an important part of children's reading and response processes' (p. 57). Rowe's study suggests that particularly for younger children, the availability of props to support story understanding is important; multi-modal responses during story should be elicited where appropriate; and children's play with story themes should be supported by direct and indirect involvement by the educator as appropriate.

Book reading with young children has significant potential for fostering the type of language development that is linked to literacy (e.g. Bodrova & Leong, 2006; Whitehurst & Lonigan, 1998). The practice whereby child and adult share a picture book, focus on a picture book and focus on the story through talk is known as dialogic reading (Whitehurst & Lonigan, 1998). Dickinson and Tabors (2001) show how joint attention of children and adult on the picture/text provides opportunities for the adult to extend the child's language and to encourage the use of complex language. This includes explanations, definitions, and descriptions. It also includes talk about past experiences, predicting and making inferences.

Interactive, reflective conversation during book reading can impact on the ways in which children think and the ways in which they use language. A major purpose of discussion between adult and children about a story is to develop children's ability to make sense of and respond to decontextualised language (McKeown & Beck, 2006, p. 287). Supporting children to make meaning from the decontexualised text which is the story book is to focus them on important story ideas and encourage them to reflect on these. Engaging children in interactive discussion about the text is a key goal for the educator. However, the talk must engage children in talking about their understandings and ideas about the story that they are constructing and co-constructing 'as the story is being read' (McKeown & Beck, 2006, p. 284).

Storybook reading and the ensuing discussion help set the stage for literacy activities such as writing and reading. In engaging with an adult in co-constructive storybook reading, children are linguistically challenged as well as being intellectually challenged. The work of Dickinson and Tabors (2001) clearly illustrates the ways in which educators can use a co-construction approach to sharing picture books with young children in early education settings. The key steps involved include:

- having an extended discussion before beginning to read the story

- reading several pages in order to draw children into the story

- using dramatic techniques as appropriate

- modelling good language use, recasting children's contributions as appropriate

- showing the pictures and discussing them

- encouraging the child to use new vocabulary and new words

- expanding on the child's contributions as appropriate

- encouraging the child to extend their contributions

- using implicit management strategies.

The authors suggest that in order to co-construct meaning with children the educator should:

- Direct the child's attention to aspects of the text and the pictures.

- Stop several times to help the child to understand the plot and the characters.

- Pick up on cues indicating a lack of understanding of the plot or other aspects of the story.

- Encourage the child to connect the story to their own experiences.

- Encourage the child to make predictions that require him/her to link understanding to personal experiences.

- Encourage the child to project his/her feelings onto the characters in the story.

- Encourage the child to explore and explain motives and behaviours of the characters in the text.

- Elicit emotional reactions from the child.

- Use questions to check understandings and to assist the child to begin to understand the meaning.

- Use follow-up questions. Respond to the child's questions, especially when related to the story.

- Elaborate on the topic and give interesting information as appropriate.

Additional advice to promote language development includes:

- Aiming to stay with a particular point for several conversational turns i.e. establishing an extended discourse.

- Being clear about the teaching objectives, e.g. developing vocabulary (specific, unusual or rare words); developing knowledge of grammatical structure; developing the use of language in a range of ways: describe; define; explain; narrate; predict; make inferences; build language structures; engaging children in complex talk.

ALPHABETICS

Phonological awareness

One of the key underlying processes most influential in the development of early reading is *phonological awareness*, or the child's ability to reflect on and manipulate the sound patterns of words. Phonological awareness is important in learning to read (Adams, 1990; Goswami, 1986; NICHHD, 2000). It encompasses a range of skills including awareness of words, rhyme awareness, awareness of syllables, sensitivity to onset and rime (e.g. 'mat' can be segmented into the onset /m/ and the rime /at/, and awareness of the individual sounds within words, i.e. phonemic awareness (e.g. 'mat' can be segmented into three sounds /m/, /a/ and /t/). While phonological awareness is an umbrella term encompassing several phonological skills, each is important in its own right, and should be the focus of instruction and assessment. Burgess (2006) suggests that the elements of phonological awareness form a hierarchy, with the easiest tasks being those that involve awareness of large units such as words and syllables, and the most difficult being awareness of individual phonemes within words. Phonemic awareness has been found to be one of the best predictors of how well children will learn to read (Ehri, Nunes et al., 2001). Research has shown that

phonemic awareness is essential for developing an understanding of the alphabetic principle and acquiring phonic knowledge (Adams et al., 1998; Dombey et al., 1998; Shankweiler & Liberman, 1998; Yopp, 1995).

Phonemic awareness

Phonemic awareness is the awareness that the speech stream consists of a sequence of sounds (Yopp & Yopp, 2000). Phonemes are the smallest units of spoken language. Phonemes can be distinguished from other terms related to reading development, as indicated in table 4.2.

Table 4.2: Terms used in the literature relating to word-identification

Term	Definition	Example
Auditory discrimination	The ability to hear likenesses and differences in phonemes and words.	Say these sounds /t/ /p/. Are they the same or different?
Phonetics	The study of speech sounds that occur in languages including the way these sounds are articulated.	The first sound in 'pie/ is a bilabial- it is made with the two lips.
Phonics	A way of teaching reading and spelling that stresses symbol-sound relationships (in alphabetic orthographies).	The symbol *m* is used to represent the italicised sounds in the following words: ha*m*, ju*m*p, *m*y.
Phoneme	The smallest unit of speech sounds that makes a difference in communication.	'soap' consists of 3 phonemes: /s/, /oa/, /p/.
Phonemic awareness	The awareness that spoken language consists of a sequence of phonemes.	How many sounds in the spoken word *dog*? Say all the sounds you hear.

Research has given some important guidelines for instruction in phonological awareness as follows:

1. Instruction in phonemic awareness must be child appropriate (National Reading Panel, NICHHD, 2001; Snow, Burns & Griffin, 1998; Yopp & Yopp, 2000). Time spent on word play, nursery rhymes, riddles, and general exposure to storybooks develops phonemic awareness.

2. Phonemic awareness instruction should be deliberate, purposeful and explicit.

3. Phonemic awareness instruction must be viewed as just one aspect of skill development within a balanced literacy framework and is not meaningful in and of itself.

Phonemic awareness can be taught as an oral/aural skill (i.e. without reference to printed text), and as a print-based skill (where children have access to words and letters). For very young children (those under 5 years of age), phonemic awareness will mainly develop in the context of oral language activities focusing on the structure of words. Older children may use a combination of oral work and work involving print (e.g. magnetic letters). Higher-level aspects of phonemic awareness (sound deletion, see below) may develop as a consequence of learning to read (Snow, Burns & Griffin, 1998).

Classroom activities and tasks which can be used to practise or assess phonemic awareness (Adams, Treiman & Pressley, 1998; Yopp & Yopp, 2000) are as follows:

*   Phoneme isolation: e.g. *Tell me the first sound in /paste/.*

*   Phoneme identity: e.g. *Tell me the sound that is the same in 'bike', 'boy', 'bell' (/b/).*

*   Phoneme categorisation: e.g. *Which word does not belong? bus, bun, rug? (rug).*

*   Phoneme blending: e.g. *What word is /s/t/o/p/ (stop)?*

*   Phoneme segmenting e.g. *How many phonemes are there in 'ship'? (sh/i/p/).*

*   Phoneme deletion e.g. *What is 'smile' without /s/?*

WORD IDENTIFICATION

Taking into account what we know from the research literature on word identification, we know that young children need to use many sources of information to identify words – syllables, rimes, phonemes, and graphemes. On some occasions, larger units (syllables) may be more helpful than smaller units (phonemes)[2]; sometimes, phonemes may be most useful to help them identify words and on others, graphemes may be more helpful. Children need help to adopt 'flexible unit size strategies', to become aware of the morphological and orthographic (spelling) patterns of words and to be familiar with the language of books. Thus, the evidence concludes that attention to small and large size units in early reading instruction is helpful for all children.

Phonics instruction

The Rose Report (2006) underlined the importance of phonics instruction in early reading by including the following goals for young children:

- Hearing and saying initial and final sounds in words and short vowel sounds within words.

- Linking sounds to letters, naming and sounding the letters of the alphabet.

- Using phonic knowledge to write simple regular words and making phonetically plausible attempts at more complex words.

In order to attain reading and spelling skills, beginning readers need to acquire understanding of the grapho-phonemic correspondence between letters and sounds and to begin to acquire decoding skills.

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2   Brown & Deavers (1999) refer to children selecting 'flexible unit size strategies'.

Systematic phonics instruction has been defined as follows:

> *Phonics is a method of instruction that teaches students correspondences between graphemes in written language and phonemes in spoken language and how to use these correspondences to read and spell. Phonics instruction is systematic when all the major grapheme–phoneme correspondences are taught and they are covered in a clearly defined sequence.* (Rose, 2006, p. 18)

Controversy has centred on the relative effectiveness of two different methods of teaching phonics - known as synthetic or analytic phonics (Lewis & Ellis, 2006). *Synthetic phonics* emphasises a part-to-whole approach, letter by letter phonological decoding; the child learns to sound and blend the sequential letter sounds. Sounds are learned in isolation and blended together (/c/a/t/). In *analytic phonics* the sounds are not learned in isolation but a phonic element is identified from a set of words in which each word contains the particular sound to be studied (e.g. how are these words alike? *pat, park, push, pen*). This is a whole-to-part approach.

As has already been outlined above, phonics instruction can include both analytic and synthetic approaches (Brooks, 2007; Torgerson et al., 2006). There is currently no strong evidence that any one form of phonics instruction (synthetic or analytic) is more effective than any other (Torgerson, et al., 2006). What matters is how systematic the instruction is. Children need to be flexible in their choice and use of word recognition strategies when they encounter an unknown word. It is important that they do not over-rely on one strategy and that they cross-check and verify with another strategy (e.g. semantic cues should be verified with graphophonic knowledge; equally a child who initially uses graphophonic knowledge, such as analogy should then cross-check for meaning). These strategies are summarised in table 4.3.

Table 4.3: Word-identification strategies

Strategy	Description
Phonics	Pupils use their knowledge of sound-symbol correspondences and spelling patterns to decode words when reading and spelling.
Analogies	Pupils use their knowledge of rhyming words to deduce the pronunciation or spelling of an unfamiliar word e.g. 'creep' from 'sheep'; 'shake' from 'flake'.
Context, semantic and syntactic cues	Pupils use information from illustrations, from their prior knowledge of the subject matter and/or from the way language works. Encourage pupils to ask 'Does this make sense?' or 'Does this sound right?'.
Morphemic analysis (structural analysis)	Pupils apply their knowledge of root words and affixes (prefixes at the beginning and suffixes at the end) to identify unfamiliar words.
Syllabic analysis	Pupils break multisyllabic words into syllables and then use phonics and analogies to decode the word, syllable by syllable: 'cul-prit', 'ba-na-na', 'hipp-o-pot-a-mus'.

Source: Adapted from Tompkins (1997, p.169) as cited in Hall, K. (2003).

Multi-sensory instruction

Kinaesthetic activities which support multi-sensory phonics instruction are particularly effective for all children. Manipulative activities using magnetic letters, making and breaking words, using 'sound boxes', support children in looking for patterns in words and also to see that in changing one letter the whole word is changed. Other activities which support a multi-sensory approach to phonics include *word study* (Bear, Invernizzi, Templeton & Johnston, 2004) or *making words* (Cunningham & Moore, 2000) and involve sorting words (e.g. letter-sound correspondence sorts; same vowel words; vowel digraph words) and/or building word families based on the child's developmental level. Multi-sensory activities feature strongly in high-quality phonic work and often encompass visual, auditory, tactile and kinaesthetic activities – these activities can involve physical movement to copy letter shapes and sounds and manipulation of magnetic letters to build words (Rose, 2006).

The key components of exemplary phonics instruction have been comprehensively outlined by many authors (e.g. Rose, 2006, Lewis &

Ellis, 2006; Stahl, 1992; Strickland, 1998). Teachers need to ensure that:

- phonics instruction builds on a child's rich concepts about how print functions (and what it means to read)

- the instruction builds on a foundation of phonemic awareness (awareness that spoken words contain phonemes)

- instruction is clear and direct (using words in context to illustrate letters/sounds)

- phonics is integrated into a total reading programme (a relatively small part of the reading programme)

- instruction is focused on reading words, not learning rules

- instruction may include onsets and rimes

- phonics instruction may include invented spelling practice (practice with invented spellings improves children awareness of phonemes which is an important precursor to learning to decode).

Research-based guidance in relation to teaching children who enter first grade with minimal reading skills is also offered by Juel and Minden Cupp (2001) who suggest the following classroom practices:

- Modelling of word recognition strategies by (i) chunking words into units such as syllables, onsets/rimes, finding little words in big words, sounding and blending individual letters or phonemes in these chunks and (ii) encouraging children to consider known letter-sounds and what makes sense.

- Encouraging children to point to words as text is read.

- Using hands-on materials (pocket charts for sorting picture cards by sound, word cards by spelling pattern).

- Including writing for sounds as part of phonemic instruction.

- Utilising small groups for word-identification lessons.

Linking spelling instruction with phonics instruction allows children to develop their strategies for spelling. Spelling or 'making words' has an important role in learning phonics as it provides the analytic component to link phonics and reading (Huxford, 2006). Features of good spelling instruction are outlined in a later section of this chapter and links are made between spelling and children's writing development.

In sum, reading should be seen as a multi-level interactive process (Rumelhart, 1994). The research offers support for a balanced approach to learning the code and argues the case for a balance between 'bottom up' and 'top down' approaches to word recognition. It is necessary that learners build up their spelling-sound knowledge to understand the alphabetic principle but at the same time, they need exposure to texts that are rich in vocabulary and meaningful in content. Phonics training should be focused and short-lived. It is recommended that phonics instruction is delivered at a brisk pace, and supported by authentic literacy tasks (Juel, 1999; Stahl, 1999).

TEACHING VOCABULARY – EARLY YEARS

Harris et al. (2011) offer six principles of vocabulary learning which according to them can fill the gap which has been observed in relation to pedagogical principles for teaching vocabulary to young children. The principles of word learning are:

- Children learn the words that they hear the most.

- Children learn words for things and events that interest them.

- Interactive and responsive contexts, rather than passive contexts, favour vocabulary learning.

- Children learn words best in meaningful contexts.

- Children need clear information about word meaning.

- Vocabulary learning and grammatical development are reciprocal processes.

Research has shown that book reading experiences have a positive impact on children's vocabulary (e.g. Sénéchal, Pagan, Lever & Ouellette, 2008). This is especially so when it is dialogic in nature. Harris et al. (2011) also note that shared dialogic reading is particularly beneficial to the expressive language of young preschoolers. Dialogic book reading can support children's vocabulary and grammatical development in two crucial ways. It can provide opportunities for contextual analysis i.e. where children's understanding is supported and extended by the context. It can also support repeated exposure to selected language in the sense that children can be exposed to the target words and structures a number of times and on different occasions when the story is revisited, which as noted earlier is essential for vocabulary growth. However, it is important to stress that while both informal discussion and book reading are effective strategies for extending vocabulary, even where they are well utilised gains for disadvantaged children can be quite modest (Neuman, 2011).

In terms of narrowing the gap between children from economically disadvantaged backgrounds and their more advantaged peers, Neuman (2011) argues the case for 'intensive interventions early on in order to improve vocabulary and to help children build a rich conceptual base for comprehending material in subject-matter texts' (p. 359). According to her, it is not enough for educators to improve

children's vocabulary; they must accelerate it, given that the gap exists before ever children enter school (Hart & Risley, 1995). Based on analysis of research, she identifies a number of important factors regarding interventions in early education settings:

- it is essential for educators to identify the words needed by children

- a combination of explicit instruction on the meaning of a word (e.g. talking about/defining a specific word) and implicit instruction (e.g. the use of that word in meaningful contexts) has maximum impact on children's vocabulary

- the use of the target words by children in experiences that require a depth of engagement (e.g. play) is likely to promote better assimilation of the new vocabulary

- children's vocabulary must be monitored by educators using both localised and general measures of vocabulary.

Arising from a review of 10 preschool programs used in the United States, Neuman (2011) concluded that current instructional materials offer very little to educators in terms of methods of teaching vocabulary to young children. She also reported that observations of 55 kindergarten classrooms revealed no evidence of rich instruction in vocabulary and almost no repetitions of the same word which has been noted as vital for vocabulary growth. Even the story-reading sessions in these classrooms were not structured by the educators in ways that would impact to any great extent on children's vocabulary.

Neuman (2011) offers the following instructional principles to accelerate vocabulary in early childhood:

- create self-teaching strategies so that children can develop new words on their own

- teach new words in groups of related words (rather than teaching words in isolation)

- teach content rich words; supporting words that enable children to talk about concepts; functional concepts that allow children to talk about the vocabulary they are learning, to follow instructions, to solve logical problems and to answer questions

- use informational texts with children to provide them with prior knowledge and to facilitate comprehension

- use embedded multimedia to enhance learning

- gradually release control to children during the teacher–child interactions by encouraging open–ended discussion and by encouraging children to elaborate on what they have learned and to use it in conversations and in their writing.

In summary, there is a great deal of support for a strong emphasis for vocabulary development in early childhood, especially for children from economically disadvantaged backgrounds and for language minority children. The plea in the literature is for this to be done in ways that are appropriate (e.g. Harris et al., 2011). These include playful and conversational contexts for learning.

Teaching academic vocabulary

Research indicates differences in the frequency of the use of complex language by children of different cultural and language backgrounds (e.g. Dickinson & Tabors, 2002; Pearson, Fernandez & Oller, 1993 (cited in Snow & Oh, 2011). This variation is thought to arise from differences in aspects of the home experiences of young children. The different ways in which parents engage young children in reading books together, in pretend play; and in informal conversations, for example at meal times, are all factors that have been found to be important (e.g. Dickinson & Tabors 2001; Leserman & van Tuijl, 2006).

As stated by Dickinson & Tabors (2001, p. 239) '*how* parents read is as important as whether and how often they read'. It has also been widely reported that the knowledge and use of a specific type of literate (i.e. academic) language is fundamental to success in school (see Cregan, 2008 for a review of the literature in this regard). Academic language skills are generally seen to be the obstacle to achievement for many children struggling with reading (Snow & Uccelli, 2009). According to Leserman and Van Tuijl (2006) academic language has an associated specialised vocabulary and grammar which is central to mastery of school literacy. This in turn is key to dealing with the complex reading and writing tasks children 'have to deal with in several subject areas, in examinations and in international comparison studies like PISA and PIRLS' (p. 225). Furthermore, the linguistic structures needed to operate with academic language are different from those commonly used in interpersonal communication. Snow and Oh (2011) conclude that academic language words are unlikely to be learned by children with small vocabularies but they also caution that it is possible to grow vocabulary without learning these types of words.

Snow and Uccelli (2009) observe that there appears to be no simple definition of the concept of academic language. It is often characterised as the language used in schools, in writing and in public settings. In their opinion, such is its import on children's success at school, that 'it should be located at the exact centre of educators' concerns' (p. 113). Blum-Kulka (2008, as cited in Snow & Uccelli, 2009) argues that preschool children's early development of conversations and extended discourse skills, including literate discourse is of great educational relevance when considering the developmental course of academic language. As reviewed by Snow and Uccelli (2009) conversational skills are envisioned as including: thematic coherence; frequency of topical initiatives; capacity for regulation; correction and meta-pragmatic comments; and

sociolinguistic skills. Extended discourse skills are envisioned as including abilities related to structural development; enrichment of linguistic means; conversational autonomy; textual autonomy; and expansion of range of interest. Snow and Uccelli (2009, p. 126) envision 'many of these early skills as foundational abilities or rudimentary precursors for later, more sophisticated academic language skills'. However, they also recognise that much work now needs to be done in developing the type of educational experiences which can promote the development of the foundational aspects of academic language in early education settings.

Teaching vocabulary in reading and writing

Graves and Watts-Taffe (2002) have suggested that a systematic approach is needed in order to develop children's reading and writing vocabulary. The framework has four components. Firstly, *wide reading* is encouraged, as 'research has shown that children who read even ten minutes a day outside of school experience substantially higher rates of vocabulary growth between second and fifth grade than children who do little or no reading' (Anderson & Nagy, 1992, p. 46). Children with reading difficulties tend to read less than their more able peers, and so are not exposed to the rich, complex and more sophisticated language and syntactical structures of text. On the other hand children, who read more get stronger and stronger, reading many more minutes per day, reading more varied texts and as a result are exposed to a richer language base and text structures and develop a larger vocabulary than those who read less. Stanovich (1986) has termed this *the Matthew effect*.

Secondly, individual words should be taught. Beck, McKeown and Kucan, (2002) suggest that the words selected should be what they term *tier 2* words (these are more sophisticated words for words which children already have some conceptual understanding e.g. to take care of = tend; words that appear in high-quality texts and are developed

through teacher read aloud, and during shared and guided reading); and *tier 3* words (these are topic specific words that arise in content area reading e.g. antennae, habitat) while also ensuring that *tier 1* words (high-interest) and *high-frequency* words (Dolch words) are at an automatic level.

A third element of the Graves and Watts-Taffe (2002) framework is the teaching of *word learning strategies*. This involves providing direct instruction to children on how to use context clues effectively, how to use graphophonics cues and how to use morphemic analysis to unlock the meaning of unfamiliar words.

Finally, the fostering of *word consciousness* is promoted in order to create a positive disposition towards new words. Graves and Watts-Taffe (2002) suggest modelling skilful and adept diction in speech and encouraging children to notice when words have been used in interesting ways in texts they are reading and also to encourage them to be skilful and adept in their choice of words in personal writing. Children should be taught that reading and writing are reciprocal processes and what can be learned in one can support and strengthen the other. Adopting the stance of first the reader and then the writer immerses children in reading and writing, and can help them to value the precision and apt use of language (Barr, 2000; Calkins, 1986; Graves, 1994; Hansen, 1987). Graves and Watts-Taffe, (2002, p.150) further suggest that children need to hear high quality literature read aloud daily which contains 'rich, precise, interesting and inventive use of words…which should be posted around the room.' Developing curiosity and interest in words is vital and, as is outlined in the sub-sections on comprehension and oral language, several of the comprehension routines (reciprocal teaching, literature circles,) are useful for promoting word play with children. Children when they take note of interesting words should then be encouraged to use them in appropriate ways in their own writing. This approach underscores

the integrated nature of reading, writing and word study in a balanced literacy framework (outlined later in this chapter). Good vocabulary instruction then excites children about words and contributes to their comprehension.

TEACHING READING FLUENCY

The National Reading Panel (NICHHD, 2000) examined the literature on guided oral reading and how it can contribute to fluency. Approaches considered included repeated reading (Samuels, 1979), neurological impress (Heckelman, 1969), radio reading (Greene, 1979), and paired reading (Topping, 1987). A meta-analysis of 14 studies indicated that the mean weighted effect size of comparisons of one or another of these techniques versus a no-instruction control varied depending on the outcome measure. The effect size was greatest (.55) when the outcome measure was word recognition, next largest (.44) with a fluency measure, and smallest (.35) with a comprehension outcome measure. The panel found that repeated reading was effective for normal readers through Grade 4 (there were no studies of normal readers beyond Grade 4) and for children with reading problems throughout secondary schooling. Another finding was that simply engaging children in reading a lot ('sustained silent reading') was not effective for developing fluency, although such reading may have other positive outcomes, e.g. comprehension.

Others have emphasised the important role of practice in promoting reading fluency. Rasinski, Homan and Biggs (2009) and Nichols, Rupley and Rasinski (2009) advise the use of a number of methods to increase reading fluency in young readers and in struggling readers including paired repeated reading, assisted reading and phrase reading. They also encourage the use of 'the oral recitation lesson' (ORL), 'fluency development lessons' (FDLs), 'fluency orientated reading instruction' (FORI), radio reading and Fast Start.

Rasinski, Homan and Biggs (2009) propose that 'independent repeated readings might work for readers who are already sufficiently accomplished to be able to evaluate and monitor their own reading. However, for most younger and struggling readers, repeated readings need to be under the guidance of a teacher or coach' (p. 194).

Richards (2002) (in Nichols et al., 2009, p.11) describes a range of activities, both at home and at school, that are supportive of fluent reading. These include:

• exposure to fluent reading patterns modelled both at school and at home

• provision of varied opportunities to apply fluent reading behaviours in connected text as opposed to just working on isolated skills

• opportunities to focus on and practice reading developmentally-appropriate texts with expression through guided and repeated reading activities aimed at expressive reading

• opportunities to engage in fluent reading in a variety of texts at both their independent and instructional levels.

Shanahan (2001) recommends methods of instruction where 'students read portions of text aloud repeatedly with feedback from a peer, parent, or teacher' (p. 22). One of the methods he recommends is the 'pause, prompt, praise' method of reading instruction developed by Wheldall & Mettem (1985).

TEACHING READING COMPREHENSION

This section reviews the literature on enhancing the development of reading comprehension in the early years' classroom. First it provides an overview of the strategies used by good readers when reading.

Second, it draws on a review of the literature of effective pedagogies for improving the development of reading comprehension in the early years.

Pressley and Afflerbach (1995) conducted a meta–analysis of over 63 think aloud studies which examined the verbal reports and subsequent protocol analysis of the strategies which readers use when reading text. Protocol analysis methodologies have some limitations, such as the extent to which a reader can articulate reading processes which often operate at the periphery of conscious awareness. Nevertheless, the groundbreaking analysis conducted by Pressley and Afflerbach provided a lens onto the 'constructively responsive reading comprehension strategies' of good readers. The processes which good readers use relate to three broad categories, which Afflerbach and Cho (2009, p. 77), in an update of the research conducted since the 1995 study, noted as including 'identifying and remembering important information, monitoring and evaluating'. As such, good readers are strategic, motivated and set goals for reading. They are selectively attentive, make inferences, and integrate information across texts. Good readers interpret what the text means, moving beyond the surface code to the text base. They activate and connect with prior knowledge, attend to text structure, evaluate, ask questions of the text, determine importance and summarise as they read. Finally, they process text before, during and after reading (Afflerbach & Cho, 2009; Dole, Duffy, Roehler & Pearson, 1991; Duke & Pearson, 2002; Pressley & Afflerbach, 1995). Good readers are 'active readers who construct meaning through the integration of existing and new knowledge and the flexible use of strategies to foster, monitor, regulate and maintain comprehension' (Dole et al., 1991, p. 242). Good readers orchestrate a repertoire of strategies when reading. Strategic reading is both developmental in nature and open to instruction. Pearson and Gallagher (1983) noted that there are developmental issues with regard to strategy use among older/

younger and good/struggling readers. These developmental issues relate to connection to a greater level of prior knowledge, the range of general and specific vocabulary, the ability to determine importance, draw inferences, ask questions, monitor strategy use and summarise text. The literature attests to the fact that cognitive reading strategies can be taught (Duffy et al., 1987; Pressley, Johnson, Symons, McGoldrick & Kurita, 1989; Pressley et al., 1992; Rosenshine et al., 1996) and that strategy instruction leads to a concomitant rise in achievement in reading comprehension (National Reading Panel (NRP), (NICHHD, 2000). Block & Pressley (2002) noted that in order to comprehend text, a reader must be able to decode accurately and fluently, have a wide and appropriate range of vocabulary, be able to activate and connect with an appropriate and an expanding domain, topic and world knowledge, should actively monitor text, have a range of fix-up strategies when meaning breaks down, and be able to employ a wide repertoire of comprehension strategies. Traditionally, and particularly in the early years classroom, the teaching of basic reading skills, such as decoding skills have been developed prior to the development of reading comprehension skills and strategies. Shiel and Kiniry, (2010), drawing on a review of the literature, argue that there has been considerable support in the literature (e.g. Bus & Van Ijzendoorn,1999; Whitehurst & Lonigan, 1998) for developing basic decoding skills and higher-order comprehension skills simultaneously rather than sequentially.

Shanahan et al. (2010) conducted a meta analysis of research studies regarding the development of reading comprehension from kindergarten to third grade (senior infants to third class) and identified five key recommendations for improving the development of reading comprehension:

1. Teach children how to use comprehension strategies ('strong' evidence).

2. Teach children to use text structure ('moderate' evidence).

3. Engage children in high level discussions of text ('minimal' evidence).

4. Provide motivating and engaging contexts for reading development ('moderate' evidence).

5. Select texts purposefully to support comprehension development ('minimal' evidence).

These key recommendations to foster the development of reading comprehension in the classroom are reviewed, with other relevant literature (Block & Pressley, 2002; Duke, Pearson, Strachan, & Billman, 2011; NICHHD, 2000; 2011; RAND Reading Study Group, 2002; Sweet & Snow, 2002), in the sections which follow.

TEACH CHILDREN HOW TO USE COMPREHENSION STRATEGIES

The repertoire of strategies recommended by the literature varies according to the review (e.g. Duke & Pearson, 2002; NICHHD, 2000; Duke et al., 2011; RAND Reading Study Group, 2002) but include the following strategies:

• activation and connection with relevant prior knowledge sources

• generating and answering both teacher and self-generated questions

• monitoring, clarifying and using fix-up strategies

• visualising and creating mental imagery

• inferencing

• use of graphic organisers

• summarisation.

The literature recommends that comprehension strategies should be taught using the gradual release of responsibility model (Pearson & Gallagher, 1983). First, the teacher explicitly describes the comprehension strategy under review and states why good readers use this strategy when reading. Following this, the teacher models the strategy by demonstrating and thinking aloud while the children observe the strategy in action. Next, the children engage in collaborative use of the strategy through guided practice where the teacher gradually releases responsibility for the strategy to the children through scaffolded instruction and facilitation. Finally, the children engage in independent use of the strategy in subsequent lessons. Two additional processes – reflecting and goal-setting – were added to the model by Duke and Pearson (2002). These processes can occur during the guided phase of instruction, or during independent reading as children think about the strategy they have learned, and when it might be useful to apply it. Duke et al. (2011) note that the release of responsibility from teacher to child is often recursive rather than linear in nature depending on the complexity of the strategy as children 'get their sea legs in these new textual waters'. Further, they caution against the overuse of rigid ritualised and over-scripted development of strategies (for example, making predictions in every lesson). In becoming strategic readers, children need to develop both (a) metacognition, i.e. knowing how, when and why to use particular strategies and (b) self-regulation i.e. planning, monitoring and evaluating which strategic tool to activate in particular reading circumstances.

Shanahan et al. (2010) note that it may be easier to introduce strategies singly as it allows children to focus, practice and consolidate a strategy over a period of time. However, as additional strategies are introduced teachers should encourage children to employ all of the strategies learned in tandem. There are a number of multiple-strategy format models in the literature. See table 4.4.

Table 4.4: Multiple strategy comprehension models

Multiple strategy model	Overview	Strategies taught
Reciprocal teaching (Palinscar & Brown, 1984)	Instruction occurs initially in teacher-led dialogue sessions where the instruction is overt, explicit and embedded in meaningful contexts. Gradual release of responsibility and appropriation of instructor role to the student. Student then leads the dialogue for particular comprehension strategy in small groups.	predicting, clarifying questioning, summarising
Concept oriented reading instruction (CORI) (Guthrie et al., 2004)	Reading engagement is the interplay of motivation, conceptual knowledge, strategies and social interaction during literacy activities. Instruction is based on a conceptual theme and an extended unit of learning, typically integrating literacy and science Strategies are introduced singly and then in combination.	activating prior knowledge, questioning, summarising, text structure
Transactional strategy instruction (TSI) (Brown et al.,1996)	Focus is on introducing a few strategies at a time. TSI concentrates on improving student memory, comprehension and problem-solving skills. The teacher selects from a broad menu of strategies and teaches these strategies using the gradual release of responsibility model (previously described in text).	Typical strategies include: activating prior knowledge, predicting, questioning, visualising, monitoring, setting goals for reading, clarifying, analysing text structure
Informed strategies for learning (Paris, Cross & Lipson,1984)	Combine a range of strategies; initially introduced and modelled by the teacher. Bulletin boards typically display and link strategies. These boards serve as reminders to children to use the strategies in independent reading.	activating prior knowledge, drawing inferences, visualising, summarising, monitoring
Literature circles (Daniels, 2002)	Literature circles encourage children to engage in wide reading and to develop reading fluency. Typically each strategy is introduced and modelled by the teacher and then the children adopt these roles when reading and engaging in discussion circles in small groups.	making connections, questioning, summarising, clarifying, visualising

TEACHING CHILDREN TO USE TEXT STRUCTURE

Many children come to school with an awareness of the once-upon–a-time nature of narrative texts and a mental representation of the

elements of narrative texts, such as characters, initiating events, plots and solutions. They make connections to narrative texts by drawing on connections to other texts, to life, and personal experiences, thereby recalling events in the text more easily. On the other hand, despite the fact that informational text is ubiquitous in society, there is a paucity of informational text in primary schools, particularly in the early years' classroom (Duke, 2000; Duke & Pearson, 2002; Ogle & Blachowicz, 2002). Authors have noted the importance of inclusion of such texts in classrooms (Shiel, 2001/2002; Wray & Lewis, 1997). Informational texts include domain specific vocabulary to convey concepts. Internal text cues, such as compare/contrast, generalisation/example and problem/solution and external cues, such as table of contents, headings, visual images, and graphs may add to the complexity of reading informational texts if the reader is unaware of these text structures and the need to apply suitable skills and strategies in reading them (Kletzien & Dreher, 2004). Good readers are able to recognise cues in informational texts which signal importance. An additional complexity with reading informational text is related to locating specific information related to a goal rather than recalling or understanding entire texts. Children should have ample time and opportunities to engage with a range of quality text genres at independent, instructional and challenging levels, including digital and print based texts. Texts should be at the instructional level of the child when engaging in guided reading with the teacher; and at an independent level when reading library books. Challenging texts, on topics of interest to children, may promote engagement with texts and encourage children to apply fix-up strategies thereby enhancing reading development and fostering learning (Duke et al., 2011).

Teachers should explicitly teach text structures. Research suggests that such instruction has a positive effect on the development of reading comprehension (Armbruster, Anderson & Ostertag, 1987;

Mayer, Brandt, & Bluth,1980).The use of graphic organisers such as, story mapping for summarisation; venn diagrams for compare and contrast; KWL strategy (*what do I know, what do I want to know, what have I learned*) (Ogle, 1986) for activating and connecting with prior knowledge sources, questioning and summarising, and the use of flow charts for problems/solutions are a means to re-representing texts (Duke et al., 2011).The authors note that it is through this 'transformative process that knowledge, comprehension and memory form a synergistic relationship' to transform text into knowledge and ultimately contribute to child learning in the classroom.

ENGAGE CHILDREN IN HIGH LEVEL DISCUSSIONS OF TEXT

Teacher-generated questions in the form of an initiation-response-evaluation (IRE) format have traditionally dominated the instructional landscape in classrooms (Fielding & Pearson, 1994). These questions have often taking the form of a gentle interrogation (Allington, 1994) rather than a carefully designed hierarchy of questions (including literal and higher-order questions) intended to develop the child's understanding and help forge connection between elements within the text (Pearson & Gallagher, 1983).

On the other hand child-generated questions, particularly higher-order questions, lead to deeper processing of texts with a concomitant rise in reading comprehension (Dole et al., 1991; Pearson et al., 1990). In a meta-analysis of studies investigating instruction in generating questions, Rosenshine et al., (1996) found that teaching children to generate questions resulted in gains in comprehension with a significant effect size of 0.36 on standardised tests and 0.86 effect size on experimenter-designed tests when compared to a control groups.Taboada and Guthrie (2006) noted that self-generated questions resulted in a significant degree of variance in children's reading comprehension even after accounting

for prior knowledge. The process of generating questions heightens children's awareness of reading comprehension in a number of ways. Children who generate questions are more active and more involved in the reading process than those who merely answer teacher-generated questions (Singer & Donlon, 1982). Asking questions may sensitise the reader to pay selective attention in reading specific paragraphs and integrate information across texts read. The levels of questions asked enable children to build knowledge structures from text. Instruction in generating questions on narrative and informational texts has impacted positively on reading comprehension (Palinscar & Brown, 1984; Raphael & Pearson, 1985; Rosenshine et al., 1996; Scardamalia & Bereiter, 1992; Singer & Donlon, 1982).

The question–answer–relationship (QAR) (Raphael & Pearson, 1985; Raphael & Wonnacott, 1985) model is an example of an approach to instruction. The QAR model provides a meta-language to help children share a common language of the processes involved in answering and posing questions (Raphael & Au, 2005). As the child asks *right there* (text explicit), *think and search* (text implicit), *author and me* (script explicit) *and on my own* (script implicit) questions, they are involved in scanning to locate information, clarifying, monitoring, inferencing, making connections to prior knowledge, determining importance and summarising. Raphael and Pearson (1985, p. 233) suggested that the 'awareness of the interplay among texts, background knowledge and types of comprehension questions' helped children to develop reading comprehension. Asking questions and activating of prior knowledge are facilitative rather than causative, i.e. both contribute to enhanced reading comprehension of text.

The role of oral language in developing reading comprehension and instructional strategies for developing high-level collaborative

discussions in the classroom is elucidated in Chapter 7: *How can teachers ensure that children's literacy development supports their oral language development?*

PROVIDING MOTIVATING AND ENGAGING CONTEXTS FOR READING DEVELOPMENT

Duke et al. (2011) note that we must be 'concerned with the will and thrill, not just the skill, of comprehension'. Guthrie and Wigfield (2000) located motivation, personal goals and social aspects alongside cognitive strategies when they proposed that engaged readers 'coordinate their strategies and knowledge (cognition) within a community of literacy (social) in order to fulfil their personal goals, desires, and intentions (motivation)' (p. 404). A classroom culture which promotes a sense of community, develops self-efficacy (Bandura, 1977), intrinsic motivation (Oldfather & Wigfield, 1996; Ryan & Deci, 2000), learning-centred goals (Mc Combs, 1996), individual and situational interest (Alexander & Kulikowich, 1994; Hidi & Baird, 1988); and challenging, collaborative activities (Gambrell, 1996; Turner, 1995) within a self-regulated learning environment fosters engagement in learning and enhances reading outcomes. Turner and Paris (1995) have promoted the 'six Cs' of contexts to engender motivation and engagement with reading. These include choice, challenge, control, collaboration, constructing meaning and consequences. Teachers can create a print-rich environment in the classroom by using authentic texts from the environment (Duke et al., 2011). Shanahan et al., (2010) note that teachers can encourage motivation and engagement through clearly focused hands-on activities related to themes to spark children's interests; provide children with a choice of reading materials and promote opportunities for peer-to-peer collaboration in the classroom.

SELECTING TEXTS PURPOSEFULLY TO SUPPORT COMPREHENSION DEVELOPMENT

Shanahan et al. (2010) propose three key elements in choosing texts in the classroom. First, chosen texts should be conceptually rich in ideas and information with well-developed characters and plot (narrative texts) and sophisticated details (informational texts). In addition, texts should be well organised and provide a rich and varied vocabulary and sentence structure. Second, texts should be chosen which are appropriate to the instructional needs of the individual child. Due care should be given to both textual and linguistic demands and complexity of content. Third, texts should be chosen to support the purpose of instruction. For example, when developing the comprehension strategy of visualisation teachers should choose texts which are rich in imagery and where the children can easily create mental images as they read.

TEACHING WRITING

Neuman and Shanahan (1997, p. 209) have suggested that the work of Graves had a profound effect on the teaching of writing is the USA and abroad since it was first published in 1981 and included it in their list of most influential studies in literacy (of which there were 13) stating:

> *before Donald Graves's research (1981), elementary writing, if taught at all, was dominated by grammar, spelling, and usage…At a time when many teachers were wondering what to do with this long neglected aspect of the curriculum, Graves's research dramatically created an attractive approach to elementary writing instruction.*

Furthermore, they contend that he and his students (many of whom went on to become influential in the field of writing: e.g. Calkins, Giacobbe, Atwell) illustrated through their careful observations of

classrooms engaged in the act of writing that young children could write and engage in the same processes of professional writers. The teaching of writing as a process differs significantly to more traditional methods of teaching writing. It requires blocks of time which allow for deep engagement and time for writers to 'talk, to read, to play, to imagine and inhabit, to dream, ponder and share ideas as well as to draft and reconstruct' (Grainger, Goouch & Lambirth, 2005, p. 23). In process approaches to writing, a high premium is put on helping children develop their own 'voice' which Graves (1994) has suggested is the 'imprint of the self on the writing, the dynamo in the process that sustains the writer through the hard work of drafting and re-drafting'. Grainger et al. (2005, p. 2) also state that 'if children's writing is to demonstrate their creativity, individuality, voice and verve, then the seeds of their stories and other forms of writing need constant nurturing and support as well as time to evolve and reverberate.'

As noted in Chapter 3's discussion of theoretical models of the writing process (Hayes-Flower, 1980) and adaptations of such models by Berninger & Swanson (1994) for beginning writers, three elements can affect the writing act for young children: affective factors, motivational factors and the nature of the social context. Understanding how these factors affect children's writing is critical for educators so that they may provide experiences that nurture and support children's writing development. Early success is critical. As Bandura (1995, p. 3) points out 'successes build a robust belief in one's personal efficacy. Failures undermine it, especially if failures occur before a sense of efficacy is firmly established.'

The motivation to write can be supported by providing autonomy for children in choice of writing topic. A supportive classroom environment will also enhance motivation as children receive feedback, praise and encouragement for their efforts. This can be done through conferencing as children are engaged in the act of writing and through

daily share sessions. The provision of a social context whereby children have an audience for their work outside of themselves is also a powerful motivator and should form an integral part of the daily routine of writing. A good conference is 80% child talk and 20% teacher talk and the teacher's job is to nudge details from the writer, understand what the writer is trying to do and scaffold them in doing so. This is in direct contrast to traditional approaches whereby the teacher responds to the product and corrects it after it is completed.

As noted earlier, beginning writers go through three major processes while writing (planning, translating and reviewing/evaluating) and working memory is involved in all three of them (Hayes-Flower, 1980; Berninger & Swanson, 1994). Drawing on socio-constructivist and metacognitive theories, educators can provide instruction in strategies that will help the child with each of the processes. Drawing on socio-cultural theories they can acknowledge the 'funds of knowledge' that children bring to the creative act. Educators can ensure a classroom environment that values writing as a creative act which is social and purposeful.

Planning for writing will be influenced by the child's knowledge of the writing topic, knowledge of genres and their understanding of audience. While it is important to demonstrate to children how to choose topics on which to write and how to plan for them, it is also important not to confine children to a rigid planning process as planning is also an on-line aspect of writing occurring as the writing is in progress. Indeed Grainger et al., (2005, p. 15) suggest that 'the nature of the final piece, however, will not always be known at the outset and the mental and practical activities through which the writing evolves need to remain open to the unexpected and be perceived as part of the creative process.'

Working memory particularly affects young writers at the translating and evaluating stages as their word level skills are not yet automatic and require such effort that there is not a lot of capacity left to attend to the higher-order messages of the writing such as the structure, word choice and overall message. Putting strategies in place to help children with these mechanical aspects of writing is essential and can free them up to concentrate on the content of their writing. This can be done in a series of mini-lessons whereby children receive scaffolding in how to stretch out the sounds of words, match them to letters and record them on paper (Graves 1994; Calkins, 2001). Establishing an alphabetised word wall for high-interest and high-frequency words is another valuable aid (Fountas & Pinnell, 1996).

Exponents of the process approach promote the use of mini-lesson to teach the 'craft of writing' by focusing on the writing of real authors. As children examine the techniques of authors they come to notice the qualities of writing and begin to borrow these techniques for their own stories and texts. Explicit modelling and demonstrating of these techniques through think-alouds are critical aspects as children are taught to consider their word choice, sentence structure, character development, leads and structure of text, and work to write with clarity and originality in developing a piece of writing to match their inner vision of the piece. In this way reading and writing are seen as reciprocal processes that support and strengthen each other. Children read quality literature with a writer's eye and evaluate how an author captures the attention of a reader. When evaluating their own writing they adopt a reader stance and consider how powerful the piece is and whether the words conjure up their original intention for the writing. Learning the craft of writing in this way builds a child's knowledge of sophisticated syntactical structures and broadens their vocabulary helping them develop the word consciousness outlined earlier in relation to vocabulary development.

All who work with children acknowledge the delicate balance between creativity and skill work. Lower level skills should be taught when children demonstrate a readiness for the skill in their writing and skills such as spelling, punctuation and grammar should be taught in small groups using children's writing as the context. Graves (1994) terms these skills 'conventions' of writing and suggests demonstrating to children that they are signposts that enable the reader to read the writing as the author intended. In this way, children begin to see punctuation marks as purposeful and begin to understand how they contribute to fluent reading, as outlined earlier and they also begin to internalise when and how to apply them to their own writing. As teachers gather summative assessment data daily they can plan to differentiate teaching based on children's needs identified using conferences, rubrics and portfolios (discussed in Chapter 6).

Genre-based approaches to teaching writing

An influential approach to teaching writing in recent years has been the emergence of the Australian genre movement (e.g. First Steps). This involves the teacher choosing a specific genre to focus on, the children identifying the characteristics of the genre (the language and the text structure) through real texts, and the teacher and the children working collaboratively to produce a text in the chosen genre. Over time, the children would be expected to gain ownership over the selected genre. Lewis and Wray (1998) have provided a framework for teaching expository genres using writing frames. A danger with this approach is that it can be formulaic, with minimum attention to originality or to the voice of the child.

In summary then, the teaching of writing provides opportunities for the integration of oral language, reading, fluency and vocabulary. When a workshop approach is used, the creative and aesthetic dimensions of writing are fostered, motivation is enhanced as children have choice and control over writing topics and writing is seen primarily as a

communicative personal act. The processes, skills and craft of writing are taught meaningfully within the context of both children's writing and high-quality children's literature in a range of organisational groupings determined by ongoing formative assessment.

TEACHING SPELLING

We can consider the teaching of spelling from two perspectives: general strategies for teaching spelling and specific strategies for teaching spelling that are matched to a child's developmental stage. The following are general guidelines for teaching spelling that are drawn from the relevant literature.

1. *Recognise the value of invented/approximate spellings.* As noted earlier, as children advance through the early stages of spelling development, they frequently produce invented or approximate spellings of words they are not yet able to spell independently. For example, children may spell *BOOK* as *BK* or *BUK.* At a later stage, spellings which were formerly invented become part of the child's repertoire, while new and more difficult words may be approximated. Invented spellings can reveal important developmental patterns in children's spelling development, and point to aspects of spelling in which additional instruction is needed. Therefore, it is appropriate to encourage invented spelling, particularly in the early stages of learning to spell.

2. *Encourage the development of spelling through writing.* Using spelling words to write messages to others, make lists, develop plans, make signs, write letters to friends and family, make greeting cards, and write songs and poems helps children make meaning through writing (Alderman & Green, 2011).

3. *Encourage beginning spellers to spell by analogy.* This involves the child thinking about a word that is similar to the unknown word in

terms of sound or meaning, and using key features of the known one in attempting to spell the unknown one (Brown & Ellis, 1994). For example, the unknown word *ground* might be spelled with reference to the known word *sound*.

4. *Provide children with support in exploring letter patterns and spelling generalisations.* It may be helpful to provide direct support for children who do not discover patterns or generalisations in words by themselves. This involves presenting lists of words and directing children to identify patterns or generalisations. This work can be supported by presenting a variety of reinforcement activities, including *word sorts* (Barnes, 1989; Bear, Invernizzi, Templeton, & Johnston, 2008). Three types of sorts are especially relevant to spelling development: sound sorts (e.g. sorting by rhyme, number of syllables), pattern sorts (e.g. sorting by word families, rimes, vowel and consonant sounds), and (for older children) meaning sorts (e.g. sorting by homophone, roots, stems, affixes).

5. *Draw attention to known as well as unknown parts of misspelled words.* When a child misspells a word, an effective way of correcting the mistake is to show the child how much he/she already knows about the word and point out any parts that are misspelled.

6. *Teach children to use independent proofreading skills.* The ability to proofread is an integral part of the spelling process but is not necessarily a skill that every child will acquire naturally. Successful proofreading requires two distinct steps; writers must first be able to locate the errors within their work, and then be able to access strategies to correct them. By teaching these steps to the child, the teacher can guide progress in spelling, so that the child becomes an autonomous, purposeful, and confident speller (Rosencrans, 1998).

7. *Where appropriate, encourage children to use joined (cursive) writing.* This often increases the probability that the correct version of a word will be remembered since each letter is connected to the one before it, and the writer may build up a memory for how it feels to produce certain patterns of letters. This provides a source of information about a word's spelling in addition to how the word looks on the page (Browne, 1993). Multi-sensory approaches are especially important in developing the spelling of children with learning difficulties.

8. *Individualise spelling instruction by encouraging children to maintain spelling notebooks.* These personal spelling sources can provide children with the opportunity to take responsibility for their own spelling needs. Lists can include frequently-used words, word families, words with the same spellings but different meanings, etc.

9. *Encourage children to develop mnemonics.* Children across all stages of spelling may find it helpful to develop memory aids to assist them with the recall of more difficult spelling words – e.g. I ate a *piece* of *pie*.

In addition to these broad recommendations, specific actions for addressing children's spelling development will arise from an analysis of the errors they make (in the context of their writing). In designing instruction that is at the appropriate level for each child, the teacher can consider the developmental level at which the child is currently functioning, and the skills required to reach the next level. The following are some strategies designed to support children's development in the early stages of learning to spell.

Stage 1: Moving towards the pre-communicative stage

At this stage of spelling development *talking with* and *reading to* children reveals the sounds and rhythms of language. It is also helpful

for children to *sort* and *categorise* pictures and objects. Activities could focus on:

- sorting objects such as buttons into different shapes and colours

- arranging pictures into categories of what fits and what is unsuitable.

- learning the letter names of the alphabet, using, for example, class charts, jigsaws, songs and poetry

- identifying the letters of the alphabet

- developing individual and class alphabet books

- sorting letters by upper and lower case

- sorting pictures by initial consonant sound

- learning the sounds of letters in words (sound–symbol relationships) through the use of rhymes, alliteration, class lists, board/card games and letter sound sorts

- encouraging children to attempt writing daily, highlighting the importance of attempting spellings that are not known.

Stage 2: Semi–phonetic

Semi–phonetic spellers learn about beginning consonants and consonant blends and digraphs. Starting at this stage, children can learn by

- comparing and contrasting initial and final consonants (onsets and rimes) through picture and word sorts

- developing word banks

- identifying words that begin or end the same

- sorting pictures to contrast initial consonants and consonant blends and digraphs

- using visual strategies to identify whether a word looks right. One way of doing this is for the teacher to draw a frame for the word, with one box corresponding to each sound, and to then work with children to add letters to the boxes.

Stage 3: Phonetic

A key task at this stage is the exploration of the common short vowel patterns. Children begin their word study comparing and contrasting short vowel word families, for example, *rat*, *sat*, and *bat*, through *picture* and *word sorts*. Children may engage in

- completing closed picture sorts whereby children are asked to sort packs of picture cards according to the key pictures (representing key patterns) that have already been chosen by the teacher

- seeking out words that follow similar sound and spelling patterns from their word banks

- focusing on the sound and spelling of one short vowel

- comparing and analysing across short vowel patterns

- examining the consonant–vowel–consonant (CVC) pattern.

Stage 4: Transitional

In this stage, children move to greater reliance on visual memory and develop a sense of whether a word 'looks right'. They show new knowledge of the conventions of English spelling (vowels in every syllable, vowel combination patterns, inflectional endings, r-controlled vowel sound (e.g. curl, farm) frequently occurring English letter sequences and other orthographic patterns). Children will engage in

- using consonant–vowel–vowel–consonant patterns (CVVC) (e.g. boat)

- identify and using homonyms (e.g. there, their; sale, sail)

- completing cloze passages, where groups of letters are blanked out of a piece of text and either the whole class or individual children complete the correct spellings: the words, letters, or clusters are chosen by the teacher to highlight developmentally appropriate word structures

- sorting pictures to contrast long and short vowels

- sorting words by grammatical and semantic features

- searching for words that contain specific long and complex vowel patterns.

Stage 5: Correct/conventional

By this stage, children have grasped the main patterns of the English spelling system. They have mastered accurate spelling of prefixes, suffixes, contractions and compound words, and can distinguish between homonyms; they have mastered many irregular spellings; they can think of alternative spellings and visualises the spellings of words; they are beginning to recognise word origins and to use this information to make meaningful associations. Children will continue to build on their spelling knowledge by engaging in activities such as

- word study in small groups and with partners to examine word origins in the content areas (e.g. history, geography, science)

- highlighting the common structural and spelling features of important content-related vocabulary items (such as those that arise in history, geography or science texts); teachers could frequently group these vocabulary items and discuss them, as rote

memorisation is a less efficient means of learning important vocabulary terms.

TEACHING HANDWRITING

Handwriting is the most concrete of the communication skills. It can be directly observed, evaluated and preserved providing a permanent record of the output. The process of handwriting is intricate and depends on many different skills and abilities. The act of handwriting entails keen visual and motor movements, smooth motor co-ordination of eye, hand and control of arm and finger muscles. Writing also requires accurate visual and kinaesthetic memory of the written letters and words (Lerner, 2003).

If the hand has poor control or forms the letters inefficiently or inconsistently, not only will the resulting appearance be unattractive but accuracy in spelling suffers. Handwriting is a craft, with a finite number of sub-skills to learn. Once a specific model has been mastered, refinements may be developed but no further learning is necessary. However there will always remain some children, in particular those with SEN, who despite well-structured teaching and dedicated practice lack the fine motor control needed to produce neat, legible handwriting. These children need recognition of the effort they have invested into the presentation of their work rather than objective assessment of the standard they achieve (Lerner, 2003). Good handwriting is not defined by compliance with strict standards of letter formation and layout. Broadly speaking good handwriting is defined in terms of legibility, fluency and speed. Legibility refers to the ease of reading the text. The letters are not too small without ambiguous letters or spacing. Attention to learning to form letters and ligatures (joins) correctly can do much to enhance the legibility. In teaching letters it is usual to group them by shape, rather than alphabetical order.

As far back as 1943 a multi-sensory approach to the teaching of handwriting and spelling was introduced by an American neurologist Grace Fernald. Since then other researchers have contributed to the body of literature supporting this method, e.g. Gillingham and Stillman (1997). This procedure for teaching handwriting to children with SEN is commonly used and follows a multisensory order, teaching to all learning channels – visual, auditory, kinaesthetic and tactile (VAKT) (Fernald, 1943). Fluency reflects how comfortable the writer feels with the model and often indicates that handwriting has become automatic, with little conscious control. Fluency means writing in a flowing, smooth hand without obvious breaks within words or overlong pauses between words. To promote fluency it is usual to write groups of the same letter together. Once a number of letters have been learnt, it is preferable to combine them in spelling strings and short words rather than write groups of the same letter joined together, a practice which does not mirror the incidence of letter groups in meaningful writing. Letter forms may be adapted as the writer matures and has achieved mastery of the letter formation. A steady speed of writing consistent with legibility makes for fluency and again suggests mastery of the skill. All of these aspects of handwriting interact.

Causes for concern

Problems with legibility, fluency, speed and delay in developing the relevant concepts all lead to dissatisfaction and reduced motivation to write on the part of the child. Children with SEN must be taught the principles and skills of handwriting explicitly. Left-handed people encounter a special handwriting problem because of their natural tendency to write from right to left on the page. In writing from left to right, left-handers have difficulty seeing what they have written as they tend to 'hook' their hand when writing. For some children left–handedness is the natural way to write and if a strong preference for

the left hand is evident this should be encouraged. The left-handed writer should have the paper placed left of centre of the body tilted to the right. Extremely poor handwriting—dysgraphia—may reflect other underlying deficits. The child may be unable to transfer the input of visual information to the output of fine-motor activities or they may have difficulty in activities requiring motor and spatial judgements.

Choosing a model of handwriting

Given the common use of keyboarding skills to communicate, the goal today is to teach functional handwriting. While many children with poor fine-motor control benefit from a cursive model that makes minimum demand on physical abilities many teachers like to make an explicit link between early writing and initial reading texts which are presented in manuscript form. The advantage of cursive writing is that it minimises spatial judgement problems and eliminates errors of letter reversal. The attraction of manuscript writing (print) is that it is easy to learn because it consists of only circles and straight lines. Many children with specific learning disabilities find manuscript writing easier than cursive writing (Lerner, 2003). Yet in observing the early writing attempts of very young children they tend to use a scribble format that closely relates to cursive.

Physical conditions

There are a number of strategies that are helpful for all children including those with SEN when teaching handwriting. The three Ps refer to posture, paper position and pencil grip. It is important that the children are seated in a chair at an appropriate height with both feet anchored on the floor. Left-handed children should be seated on the left of right-handed writers. The non-writing hand anchors the paper. Right-handed writers position the paper to the centre of the body tilted to the left, and left-handed writers position the paper to the

centre of the body tilted to the right and at a slight distance from the body. In terms of developing pincer/pencil grip, a variety of writing implements are utilised depending on the age of the child and also their fine-motor control. Rubber pencil grips are effective in providing support. Plain paper is recommended for young children as they find ruled paper a constraint. However, as lines define the relative position of all letters writing on the line is important during practice.

Development of handwriting skills

The acquisition of skills in writing is generally believed to follow a predictable sequence. Morrow and Strickland (2000) summarised the following stages or features in children's early writing development:

- Writing as drawing—the child uses a drawing to communicate information and will typically 'read' the drawing as if there is writing on it.

- Writing as scribbling—the child imitates the actions of writing, but with no awareness of letters and words.

- Writing via the use of letter like forms—the imitation gets closer to real writing, but the letters are invented shapes

- Writing as reproduced familiar letter strings—the child writes strings of real letters already learned e.g. from his/her own name.

- Writing with invented spelling—this stage has many sub-stages as noted under the section on spelling. Each stage reflects a growing awareness that letters can represent the speech sounds in words. Phonemic awareness influences competency at this stage. The messages may contain simple sentence structures.

- Conventional spelling—the child can use accurate or reasonable

attempts at spelling almost all the words he or she wants to use. Sentence patterns are also established.

While each child must experience every stage in order to achieve independence in writing and spelling there will be overlap throughout the process. Children with SEN, depending on their level of ability may plateau at one of the early stages. Teachers working with older children with SEN will often ask when the teaching of handwriting should be discontinued. This depends on the specific priority needs of the individual child. It will also be influenced by the potential necessary life skills required to facilitate their maximum independent functioning in society.

The important significance of the teaching of handwriting skills to children is highlighted in research which concluded that handwriting is causally related to success in composing and process writing and that explicit and supplemental handwriting instruction is an important element in preventing writing difficulties in the primary grades (Graham, Harris & Fink, 2000).

TEACHING DIGITAL LITERACIES

The review of the literature with regard to the uses of digital technologies in the classroom is offered with two main provisos. First, digital technologies are deictic by nature, i.e. they are constantly changing and evolving (Leu, 2000) and therefore the commentary contained in this section has a limited currency. It is difficult to envision as yet unimagined multimodal, digital landscapes (Kress, 2003; Merchant, 2008). Second, there is a paucity of research conducted in the area of the uses of technologies in education (Kamil & Lane, 1998; Lankshear & Knoebel, 2003; Moran, Ferdig, Pearson, Wardrop, & Blomeyer, 2008), and particularly in early childhood settings (Burnett, 2010). There are few studies of digital literacy pedagogies in early years classrooms. In this context, this

refers to pedagogies which enable children to develop the skills and knowledge and understanding required in order to analyse, produce and make meaning from multimodal, multimedia texts and does not refer to the use of ICT to develop competency in alphabetic print. Young children are engaging with digital technologies and digital practices in the home and the possibilities afforded by these early digital experiences need to be more fully explored and accommodated within the classroom curriculum. Young children engage with digital literacy in ways that support 'playfulness, agency and creativity' (Burnett, 2010). However, not all children have access to technologies in the home and studies suggest differences in the use of technologies in school between the 'haves and have nots' (Warschauer, 2003) with regard to access to technologies, equality in access to those technologies and the quality of access to technologies depending on socio-economic status (SES) in relation to the development of higher-order thinking and problem-solving skills (Becker, 2000; Livingstone, Bober & Helsper, 2004; Volman, van Eck, Heemskerk, & Kuiper, 2005).

The general under-utilisation of technologies in early years classrooms has been highlighted in a review of research in the area conducted for BECTA (Aubrey & Dahl, 2008), and more recent reviews on digital literacy practices in schools suggest that this is still the case (Burnett, 2010; Burnett & Merchant, in press; Levy & Marsh, 2011), despite our knowledge of the extent to which children engage in digital literacy practices in the home (Burnett & Merchant, in press). Such a dissonance may mean that children fail to transfer the knowledge and understanding gained in home on-screen reading and writing practices to their school activities. Indeed, there is evidence that on transfer to school, children begin to lose confidence in using the screen-based reading strategies they have developed in home use of technologies (Levy, 2009).

Traditionally we have adopted a supplementary or sequential approach to the use of digital technologies in the classroom (Merchant, 2008). While early research focused on whether technology should be included in the classroom adopting a comparative *which works best* approach (print versus technology) recent research has focussed on the contexts for supporting the uses of technology. Reinking, Labbo and McKenna (2008) have made the useful distinction between assimilation and accommodation with regard to the uses of digital technologies in the classroom. Assimilation refers to using digital technologies in ways that supplement or extend existing literacy practices in the classroom: for example, utilising the word processor as a means for publishing texts which were previously hand-written during the writing workshop. Accommodation refers to the transformative effects of technology when integrated in meaningful ways with literacy in the classroom: for example, using digital technologies, as a tool for social practices and as a tool for communication, to transform literacy, through the use of email, blogs, or social networking sites in the classroom (Barton, 1994; Gee, 2000; Street, 1993).

One of the key areas of digital literacy work in early years classrooms is in relation to media production, important in that film and multimodal texts are such a central part of children's lives (Parry, 2010; 2009). Marsh (2006; 2009) reports on two projects in early years settings in the UK in which children (3-5 years) were involved in making animated films. Hill (in press) describes a South Australian project in which 25 teacher-researchers built on children's technological competences developed in the home and introduced film-making activities into the classroom. They developed a 'multi-literacies map' to plan and assess this work, ensuring that critical engagement was embedded within practice in addition to operational and cultural elements. Walsh (2011) describes the use of animation software, video recordings and photography in several settings in

Australia. Kervin (2009) conducted another Australian case study in which children created and filmed short commercials on a social justice issue. Kervin suggests that there was a complex overlap between traditional and 'new' literacy practices and that it is not possible to develop clear boundaries between these. It is possible to map understandings and skills about print from traditional paper-based texts to screen-based texts, as Merchant (2005) outlines in a review of the usefulness of Clay's concepts of print for the digital age.

With the increasing popularity of web 2.0 sites and products, recent research has indicated how powerful the adoption of some of children's out-of-school practices can be for learning. For example, blogging is now quite prevalent in many schools and in some early years settings, as it can offer valuable opportunities to connect with 'real-world' audiences outside of school (Davies & Merchant, 2009; Marsh, 2009, Walsh, 2011). While blogging is probably the most widely adopted type of social networking site (SNS) used in schools, other utilities are being used. Marsh (2010) outlines the work of a teacher of children aged 6-7 years in the north of England, Martin Waller. He allowed the children in 'Orange Class' to use Twitter to log their thoughts and activities over the course of a school day. Twitter enables users to upload to the internet messages containing up to 140 characters, known as *tweets*. Users can log accounts of their activities over the course of a day and can foster the kinds of identity play and performance seen in the use of other SNS (Dowdall, 2009; Ito et al., 2008). Martin also enabled the children to upload their photographs on Twitpic, which are then attached to their tweets and used to extend the children's communication, or reinforce their messages. Adults and other children use Twitter to respond to 'Orange Class': in this way, Martin ensures the children have an external audience for their work. As Merchant (2009a) suggests, this 'raises questions about what happens as bounded classrooms are connected to diverse and fluid networked spaces with new

possibilities for presenting, exchanging and making meaning'. This can lead to challenges for teachers as they encounter territory that they are not familiar with. In a previous study in which teachers in a northern city in England were engaged in the creation of a virtual world for a specific group of primary schools, Merchant found that the teachers could not easily embrace the concept that the children were autonomous within the world, and placed restrictions on them, such as not allowing them to let their avatars fly (Merchant, 2009b).

As work on digital literacy becomes more prevalent in early years classrooms, there is a need to develop appropriate assessment practices. Bearne (2010), drawing on case studies of children's multimedia and multimodal text productions in classrooms, sets out the skills and knowledge of *emergent, developing* and *expert* readers/ viewers. There is, as yet, no stage development model for multimedia and multimodal text production.

Studies suggest that digital technologies, in the early years classrooms, may be useful in supporting and motivating literacy development in a number of key areas, such as the development of concepts of print, phonological awareness and phonics, enabling independent reading, the acquisition of vocabulary, the development of word identification strategies, reading comprehension, supporting writing development and fostering social interactions and collaboration (Labbo & Reinking, 2003).

Multimedia electronic books offer the potential to support the development of literacy with young children (De Jong & Bus, 2004; Labbo & Kuhn, 2000). They offer various digitised supports, such as text-to-speech functionality; audio output; images; animations; interactive elements and activities and the presence of an electronic reading partner to model and support the development of reading fluency. Such digitised texts may be used in two ways in the classroom. First, teachers may create their own digital books using

software such as Book Builder (http://www.bookbuilder.cast.org). Book Builder offers a 'scaffolded digital reading' environment (Dalton & Proctor, 2008) and is underpinned by principles of universal design for learning (UDL) (Rose & Meyer, 2002). These electronic texts offer multiple means of representation, provide robust supports to meet the diverse needs of children in the classroom, and reduce the barriers to text (e.g. decoding difficulties). Second, commercially produced (e.g. Oxford Reading Tree) electronic text story books may supplement the balanced literacy framework within the literacy programme. Research suggests that electronic texts may support understanding of story structure (Labbo & Kuhn, 2000); increase motivation and engagement and the enjoyment of the story (Ricci & Beal, 2002); support narrative comprehension (Verhallen, Bus & De Jong, 2006) and may supplement rather than replace adult read aloud (BECTA, 2010). In a series of studies conducted by McKenna, (McKenna & Watkins, 1995;1996; cited in McKenna, 1998) findings suggested that children were overly distracted by the use of phonic analogies and either over- or under-accessed help supports (e.g. accessing audio support for words they were already familiar with). Further, providing pronunciations of words did not enhance phonological awareness; some knowledge of the alphabetic principle and a minimal level of sight vocabulary were required for improvements in word recognition to accrue.

There are a limited number of studies exploring the uses of digital technologies to support writing development in the early years' classroom (BECTA, 2010; Merchant, 2008). Results from these studies suggest that digital technologies provide children with tools for symbolic representation, meaning-making and collaboration. Digital technologies can support writing development in a number of key areas, such as experimentation and expression with regard to the generation and construction of a message or story; the encoding

or transcription of that message or story; and the process of producing the message or story (planning, organising, revising, and reviewing strategies). Merchant (2008) suggests that young children should be encouraged to use digital technologies for writing development from the earliest stages and that such technologies should be 'infused' and integrated within the balanced literacy framework in the classroom.

Goldberg, Russell and Cook (2003) found that the use of a word processor had a positive impact on writing where children produced stories of greater length and quality than conventional methods of writing. The use of word processors helps the development of concepts of print, in areas such as directionality, spacing between words, and the recognition of letters. Further, the use of the word processor for writing stories helps to overcome some of the difficulties related to the presentation of written work (e.g. motor skills for handwriting), and the rewriting and revision of stories (which can be laborious for young children). Mumtaz and Hammond (2002) however found that word processors were used for presentation purposes for previously hand-written texts. Findings from Tancock (2002) suggested that young children did not benefit from spell checking options as their approximate spelling did not match conventional spelling. The BECTA (2010) meta-analysis suggested that well designed software packages have a positive impact on spelling development. Many questions remain regarding the uses of technology for writing. Merchant (2008) for example raises questions with regard to constructing appropriate learning environments to maximise the benefits of digital technologies in the early years classroom. Turbill (2001) charted many of the frustrations and questions asked by educators and noted the need for both technical support and ongoing, sustained professional development opportunities for educators in early childhood classrooms.

CLASSROOM PRACTICES

The final section of this chapter examines research around effective practices and frameworks to support children's literacy development. It begins by exploring practices within preschool settings and discusses the need to facilitate a smooth transition to primary school. The shape of a cognitively balanced literacy framework is outlined next with implications noted for the Irish context. This section concludes with an exploration of ways to involve parents in their child's literacy development.

Practices to support very young children's literacy development

The vast majority of children across different cultures learn to talk spontaneously, but Bodrova & Leong (2006) explain why, from a Vygotskian perspective, we cannot expect young children to learn to read and write as spontaneously as they learn to talk. According to their reading of Vygotskian theory, young children (3-4 years) are in the process of developing critical higher mental functions, e.g. the ability to memorise, to pay attention, to reason, to think, to imagine. Along with other Vygotskians, Bodrova & Leong see this as the critical work of this period of childhood. Such higher functions are essential for enabling learners to take control of the processes and outcomes of their learning. They are also essential for learning to read and write since they enable the young child 'to engage in purposeful and deliberate mental behaviours' (p. 246). The key issue here for early education settings is that from a Vygotskian perspective the social context is critical for the development of these essential higher functions. It is through their interactions with educators and peers that young children develop and refine these functions. Bodrova & Leong (2006) argue that certain literacy practices are especially effective in terms of children's development of the higher functions, thus suggesting a reciprocal relationship between literacy

practices in early education settings and the development of young children's higher mental functions. Indeed, they argue that from a Vygotskian perspective 'early literacy instruction cannot be disentangled from the development of children's mental processes' (p. 254). Amongst the key pedagogical practices they see as coherent with Vgotskian theory and essential for children's literacy development are supporting children in their make-believe play; engaging young children in storybook reading and discussion; promoting young children's vocabulary development and assisting children in developing written language.

Practices to support literacy development in schools and classrooms

Children's literacy development between 3 and 8 years can be seen to span both the stage of emergent and the stage of conventional literacy. It is during these years that young children engage with aspects of literacy in an increasingly structured and formalised way. One critical issue for literacy development during this period is the attention given to the issue of continuity, in particular in relation to young children's transition between early childhood education settings (Hill & Nichols, 2009). Morrison, Connor and Bachman (2006) present a model of the nature and sources of children's literacy development across the school transition period which they define as the period from 3 to about 8 years of age (see figure 4.1).

Figure 4.1: Working model of sources of influence on children's literacy growth over the school transition period
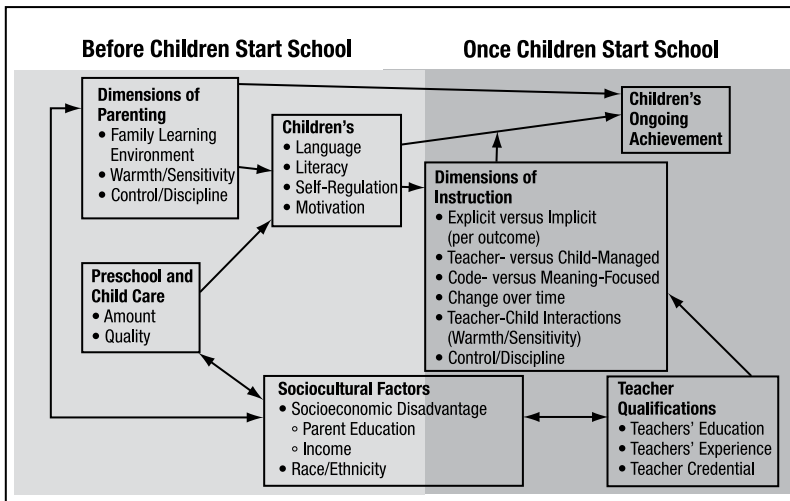
Source: Morrison, Connor & Bachman (2006) (p. 376).

Neuman and Dickinson (2006) draw on research into high-quality early care to assert that arguably the most fundamental factors for children was a rich linguistic and literacy environment characterised by 'an explicit focus on improving the language and literacy skills needed for early school success. Included were emphases on vocabulary, syntax, world knowledge, phonology, alphabet knowledge, and elementary word decoding' (p. 380). Burchinal and Forestieri (2011) examined evidence from a range of major US longitudinal studies regarding the development of early literacy skills. They concluded that the amount and quality of language interactions with caregivers, the quality of instruction, and the use of one-to-one or small-group instruction all appear to be especially important for the development of literacy skills in childcare. Dickinson and Porche (2011) were able to throw further light on exactly how the quality of the educator–child interactions influenced later literacy attainment. Their findings indicated that fourth–grade comprehension was related to educators' use of sophisticated vocabulary during free play and attention-related utterances in group settings.

Much research has been carried out into adult–child interactions in homes and schools and these help to highlight the challenges faced by young children as they transfer from home to preschool and school (Tizard & Hughes, 1984; Wells, 1986). A common finding is that child–parent interactions in the home are significantly different to those experienced in school. The challenge for early childhood educators is to build partnerships and quality connections between home and school through the exploration of the lived experiences as indicated in *Aistear* (NCCA, 2009). Increasingly researchers are acknowledging that differences in children's literacy achievements during the early years at school may be due to differences in their early experiences around literacy (e.g. Magnuson, Meyers, Ruhm, & Walfogel, 2004). A corollary of this is that there is now a great deal of interest amongst policy-makers in increasing the incidence and effectiveness of early literacy experiences in the home and at preschool.

Hill and Nichols (2009) stress that young children must be recognised as problem-solvers who are flexible socio-linguists, capable of speaking, reading, writing and viewing a range of written and spoken language genres in the home and at school. They argue that the preschool year is often overlooked in literacy research and suggest that it is important to consider children's experiences in these settings in terms of their access to representational resources and social practices. They highlight the fact that the practices of preschool settings are different from both homes and classrooms thereby presenting the young child with the further challenge of having to make two transitions in little more than two years.

For young children attempting to navigate a successful transition between home and school knowing how to participate effectively in each setting is most important. Fabian (2002) suggests that the closer the likeness between participation practices in different settings the

easier it will be for the child to travel between them. The participation in literacy practices in the home may not always coincide with school pedagogies and when this happens the young child has to negotiate the world of school and the world of home and where there are cultural differences bridging the two domains it may be particularly difficult. Dyson (1993) highlights children's creativity in the production of new meanings and forms of practice as a result of transgressing, combining and re-contextualising the different worlds.

When children move from preschool to the first year of school there are at least two significant changes in their daily experience. The first relates to the way in which the day is organised with much less time for play: much more time is spent in large–group activities; less time on physical activity and gross-motor activity; less opportunity to move around freely; and more emphasis on workbook type activity. The second relates to the opportunities that children have to converse with their peers: these tend to be restricted in the first year at school when compared with those available at preschool (Dickinson & Tabors, 2001). These all signify very considerable change for the young child.

Valuing children's home experiences in the curriculum

A number of research projects that have acknowledged the importance of valuing children's home experiences in the curriculum have utilised the concept of 'funds of knowledge' (Moll, Amanti, Neff & González, 1992). 'Funds of knowledge' refers to the knowledge individuals and communities build up through their life experiences, which can be drawn upon in educational settings. Research in this area has indicated that this approach can be successful, particularly in relation to community engagement and the impact on teachers' pedagogy (González, Moll & Amanti, 2005). Children's funds of

knowledge can be drawn upon in the classroom in various ways. Children are embedded within the world in which popular cultural artefacts are key to their leisure pursuits. Popular television programmes and characters, popular music singers, sports stars and other aspects of popular culture all inform their out-of-school play. Reviews of research in this field demonstrate how literacy activities that relate to these popular cultural texts and artefacts in the classroom can be highly motivating for children and can lead to greater levels of engagement in classroom tasks (Marsh, 2008; in press). Enabling children to read and write texts that relate to their out-of-school interests, such as comics, superhero stories and computer magazines, can be appealing to children who otherwise are not orientated to schooled literacy practices. One example of an approach that drew on the funds of knowledge concept was the Home School Knowledge Exchange project in the UK (Feiler, Andrews, Greenhough, Hughes, Johnson, et al., 2007). Activities were developed in four primary schools, two in Bristol and two in Cardiff, which aimed to draw on the practices and experiences of home in the classroom. For example, children brought to school, in a shoebox, artefacts that were important to them, which were then used to support literacy. Quantitative findings with regard to the impact of the project on reading were inconclusive, but qualitative findings suggest that the project had a positive impact on children's confidence and self-esteem and teachers' pedagogical practice.

TOWARDS A BALANCED LITERACY FRAMEWORK

Current research in the field of literacy supports the use of balanced literacy instruction (Fountas & Pinnell, 1996; Routman, 2000; Calkins, 2001; Pressley, 2006) and has been highlighted as effective in recent reviews of research on effective literacy as noted earlier (Hall & Harding, 2003; Eurydice, 2011).

Elements of a balanced literacy framework

A number of classroom models of balanced literacy exist (see sample in table 4.5) which provide a framework that allows for the integration of each of the essential literacy skills and strategies outlined earlier, into a range of authentic literacy contexts. Transitioning from contexts such as make-believe play and storybook reading as outlined earlier in this chapter, balanced literacy frameworks include several kinds of reading and writing experiences from which teachers can select depending on the needs and stages of development of the children. These include read alouds, shared reading, guided reading and reading workshops, independent reading, shared and interactive writing, writing workshop and independent writing.

Table 4.5: A balanced literacy framework (adapted from Fountas & Pinnell, 1996)

Reading	Writing
Reading aloud *(Adams, 1990; Goodman, 1994)*	Shared writing *(Holdaway, 1979)*
Shared reading *(Holdaway, 1979; Teale & Sulzby, 1986)*	Interactive writing *(Pinnell & McCarrier, 1994)*
Guided reading/reading workshops *(Clay, 2002; Routman, 2000; Fountas & Pinnell, 1996; Calkins, 2001)*	Writers' workshop *(Atwell, 1987; Graves, 1994; Calkins, 1986)*
Independent reading *(Meek, 1988; Clay, 1991)*	Independent writing *(Bissex, 1980; Harste et al., 1984)*

Reading a variety of high-quality literature aloud on a daily basis is considered an essential element of the framework for all class levels and age groups. As Mem Fox, well-known children's author, notes (cited in Calkins, 2001, p. 51) children should have the 'constant good fortune of hearing great literature beautifully delivered into the ear and from there into the heart and from the heart into the bones.' Reading aloud introduces children to new and more complex vocabulary, syntax, sentence and text structures than they could read alone and models expressive fluent reading. Shared reading involves

the use of big books (or any text with print large enough for the class to see) with predictable patterns, rhythm or rhyme. The teacher reads the large format text aloud and children at the emergent stage of development are invited to join in the reading as they become familiar with the text. Shared reading provides an authentic context for emergent readers to develop early reading skills such as concepts of print, sight vocabulary, phonological and phonemic awareness, vocabulary, comprehension and story structure once they are familiar with the text. Shared and interactive writing are also utilised to connect reading with writing, with the teacher modelling the process by scribing children's ideas in the former and 'sharing the pen' with the children in the latter. As children develop early literacy skills and build a bank of sight vocabulary and decoding skills, they are moved along the continuum into guided reading and writing workshops.

At this point, through the use of a running record (Clay, 2002) children are matched to a text that is at an instructional level for them. Children are placed in small groups for guided reading which are flexible and subject to change as children make progress. This dynamic approach to grouping ensures that children are suitably challenged while also ensuring they are not ability tracked, remaining in the same group all year. Through ongoing formative assessment measures they move through a series of levelled texts which increase in complexity as they develop their skills and strategies.. Running records (see Chapter 6) also provide teachers with a window into the word–identification strategies (graphophonic, semantic and syntactic cues) that children are/are not utilising in their attempts to decode and comprehend texts. As children move into guided reading they are also transitioning into a writing workshop approach to writing, taking on responsibility for writing their own texts (outlined earlier).

As children progress to reading more complex texts such as novels and a wide range of non-fiction/informational reading material,

guided reading develops further to encompass opportunities for a deep exploration and excavation of themes, elements of story and high quality discussion of the texts through literature circles, inquiry-based models and reciprocal teaching routines (see Chapters 7 and 8). This builds a culture of reading within the classroom and prioritises reading for meaning giving children the opportunity to respond aesthetically and to build their conceptual knowledge. Children are explicitly taught how to have a conversation, how to listen, to respond, to question, to wonder, to give their interpretation of text, to agree and disagree and to have the confidence to do so. It puts conversational structures in place which break away from the typical discourse patterns in classrooms and lays the foundations for the higher-order thinking skills so valued in the adult world: inquiring, evaluating, critiquing, and synthesising. Teachers continue to scaffold children's development and explicitly teach vocabulary, word-identification and comprehension strategies using a gradual release of responsibility model (Duke & Pearson, 2002). Strategies are taught to the conditional level of metacognition (Paris et al., 1994) and children are facilitated to reflect on their learning and to set goals.

The importance of autonomy, choice and control for children in their learning is recognised in these models as time is built in for independent reading and writing, encouraging children to develop a personal taste in reading and affording opportunities for them to self-regulate and practice applying skills and strategies independently.

This wide reading influences development in children's writing as they broaden their repertoire of writing genres, adopting technique, language registers and text structures encountered in their reading and which is further supported through provision of a range of mini-lessons within writing workshops.

A research-based approach to balanced literacy instruction pays equal attention to the affective dimensions of literacy and builds children's motivation, engagement and self-efficacy in a number of critical ways:

- *A print rich environment:* providing a broad range of reading material matched to children's stages of development and interests (Lipson, Mosenthal, Mekkelson, & Russ, 2004). Creating visual displays of strategies and children's work samples (Allington, 2002).

- *Choice and control:* opportunities to self-select books for independent reading, to self-select topics for writing and to choose activities in response to reading material all help build children's autonomy and agency. Giving children genuine choice and the control to direct their learning (Jeffrey & Woods, 2003; Turner & Paris, 1995) has a positive impact not only on their motivation but also on their creativity, agency, and self-concept.

- *Collaboration:* opportunities to collaborate with peers in literature discussion groups and in posing and finding answers to questions generated in inquiry-based models and in co-constructing texts in writing workshops and in supporting each other in writing processes such as revising and proofreading.

- *Challenge:* optimal challenge is associated with high levels of behavioural, emotional, and cognitive engagement (Fredericks, et al., 2004) and can enhance self-belief as learners successfully complete the task. Setting tasks at a moderate level of challenge has been found to be most effective (Turner & Paris, 1995).

- *★Social context:* providing opportunities for collaboration and social interaction in literacy enhances cognition, fosters intrinsic motivation, and increases achievement (Guthrie, et al., 2007). This can occur in several ways: e.g. response to texts in reading and writing workshops, share sessions in workshops and in recommending books to each other.

- *A metacognitive approach to strategy instruction:* teaching strategies in word-identification, comprehension, and writing to the conditional level gives children control over their learning, fosters independence, and builds academic resilience and feelings of self–worth as children apply multiple strategies successfully to increasingly challenging tasks (Kennedy, 2010).

A research-based approach to literacy incorporates a wide range of formative and summative assessment data which teachers document, interpret and use to plan, make instructional decisions and report progress (see Chapter 6). In addition, children are encouraged to take responsibility for their learning and to self-assess and set goals for learning.

Finally, a balanced literacy framework provides substantial blocks of time for literacy, a minimum of 90 minutes. This confers a value on literacy and provides the necessary time for deep and thoughtful engagement and for creativity to flourish. The implementation of a balanced literacy framework such as this is challenging and requires high levels of teacher expertise. A growing body of evidence suggests that expert teachers of literacy make significant differences to children's achievement in literacy.

Effective teachers of literacy

The literature on effective teachers is extensive but it is only in the last twenty years or so that a specific focus has been put on examining the practices of effective teachers of literacy. This research has been conducted in a variety of settings and in many countries (for a review of this literature, see Kennedy, 2008). Indicative of the growing interest amongst policy-makers in devising policies aimed at closing the gap in literacy achievement between children in high–poverty settings and their more affluent peers, some researchers have focused on high–poverty contexts (Knapp, 1995; Taylor et al., 1999,

2002, 2003; Kennedy, 2008; Scott et al., 2009), seeking to document the practices of teachers who have succeeded in helping children to achieve to high levels regardless of socio-economic status. Others have sought to illuminate the practices of effective teachers in a range of schools in their respective countries (e.g. US: Pressley et al., 1996, 2001; UK: Wray et al., 2002; Topping & Ferguson, 2005). This increase in the research on effective teachers has also seen systematic reviews of the evidence (Hall, 2002; Hall & Harding 2003).

In addition, the International Reading Association has issued a position statement on exemplary literacy teachers (IRA, 2000) of literacy. It notes that exemplary teachers have a variety of methodologies at their fingertips and they know when and how to apply and combine them. They are well-versed in the theory and rationale underpinning these methods and understand the complexity and developmental nature of the literacy process. While this is the ideal, Topping & Ferguson (2005) have found that even among exemplary teachers there are variations in practice and in that study no teacher was deemed to be highly effective on all behaviours. There are, however, many converging findings across the studies that provide useful insights into how exemplary literacy teachers differ to their more typical peers. They provide large blocks of time (a minimum of 90 minutes but up to 2½ to 3 hours), create a motivating and engaging classroom environment and so have few discipline difficulties, teach skills within a balanced literacy framework, adopt a metacognitive approach to instruction scaffolding and coaching children in the use of strategies, utilise a dynamic and flexible range of instructional groupings informed by a range of formative assessment tools and so effectively differentiate according to child need and finally they have expert classroom management. In effect, they successfully operate a coherent, systematic and cognitively challenging balanced literacy framework as outlined above.

Effective schools of literacy

Alongside the studies of effective teachers of literacy there is a body of literature studying effective schools of literacy (e.g. Taylor et al., 1999, 2003; Designs for Change, 1998; Kennedy, 2008). These studies seek to shed light on the school-wide practices that allow these schools to enable their children to achieve high levels of literacy regardless of socio-economic status (for a review of these studies see Kennedy, 2008, 2012, in press). These studies indicate that the highly effective schools had the following:

a. Strong school leadership in literacy (either the principal or a teacher with a high level of expertise in literacy) who ensured that staff had ownership of the literacy framework and the support necessary to implement it.

b. On-going on-site customised professional development which supported the school as it developed into a professional learning community focused on ensuring every child reached their potential.

c. Staff adopted an '*inquiry as stance*' (Cochran-Smith & Lytle, 2009) within classrooms to determine the effectiveness of changes to pedagogy and assessment on children's achievement, motivation and engagement.

d. The design and implementation of a balanced literacy framework suitable to the school and which staff were supported to construct through their professional development.

e. Collaboration amongst staff in planning, teaching and reviewing assessments, with teachers working in teams within and across grade levels.

f. The use of a range of formative and summative assessment tools. Reviewing of assessment data at a school level at least twice a year to inform planning, teaching, and the setting and reviewing of priorities for the school.

g. Strong home-school links, with parents' views on literacy sought and support provided to them to meaningfully support children's literacy development.

When one considers the weaknesses in literacy achievement and literacy teaching in Ireland, highlighted in the introduction to this document, it is clear that there are many challenges facing the Irish system as it moves towards curriculum renewal and the design and implementation of a cognitively challenging research–based balanced literacy framework suitable for the Irish context. There are clear implications for how professional development in literacy is conceptualised and delivered to support teachers in making these changes.

PARTNERSHIP WITH PARENTS AND THE WIDER COMMUNITY

Neuman and Dickinson (2006) state that parents' efforts to promote children's language and literacy can make a considerable difference to children's development and to preparing them for the demands of school. Parental warmth and responsiveness is seen as important in that it may promote self-regulation and emotional well-being. The Effective Preschool and Primary Education (EPPE) study examined the effects of early home learning environments and the quality of preschool provision on children's literacy development from ages 3 to 11. Findings demonstrate the powerful, long lasting and cumulative effects of these environments in relation to children's early literacy development (e.g. Sylva et al., 2011). Parents in low-scoring home literacy environments needed more guidance and support, the authors suggested.

As reported above, reading aloud to children is generally considered to be one of the most important aspects of early literacy development in early education settings. Sénéchal (2011) emphasises the value of encouraging shared reading in the home between parents and young children. Parents are generally strongly encouraged to engage with their children about story books as a way of introducing them to literacy. Cunningham & Zibulsky (2011) report that dialogic reading, a process in which the child's active participation is encouraged by eliciting comments, providing feedback and adapting to the child's linguistic skills, is generally considered to be particularly beneficial not just for oral language development but also for other critical aspects of literacy such as word recognition. They caution that we do not yet have enough information in relation to 'exactly how, why, and to what extent reading aloud is so important for language and literacy outcomes' (p. 397).

There are a number of interesting issues in relation to children's attention to print in book reading experiences (e.g. Evans & Saint-Aubin, 2011). One issue is that young children pay relatively little attention to the print and largely attend to the pictures. Another issue is that children's literacy skills affect their attention to the print: those who are independent readers study the print much more that those who are unable to read the book themselves. These issues are important in helping us to understand how parents might select books for reading with young children. They also offer guidance to parents in interacting with children in ways likely to result in children's attention to the print aspect of the book, as well as to the picture. The authors draw attention to the features of books which help to focus, foster and sustain young children's attention to, and interest in, print, while increasing their sense of competence with the print and supporting their knowledge of what is read and heard. Evans & Saint-Aubin suggest that the key tasks for the adult are to

foster and sustain young children's interest in print, their sense of competence with print and to support their knowledge of what is read and heard.

Nutbrown, Hannon and Morgan (2005) reported on the largest preschool literacy intervention study in the UK, the Raising Early Achievement in Literacy (REAL) project. The REAL project utilised the ORIM framework, which outlined the way in which parents provide four things for their children: opportunities, recognition, interaction and models of literacy. Focusing on four key strands of literacy: environmental print, books, early writing and aspects of oral language, Nutbrown et al. (2005), outline school and early years setting activities which have utilised a range of innovative approaches to enhancing parental support for children's early literacy development. A randomised controlled trial of the project demonstrated that it had a positive impact on children's literacy development. The ESRC have now funded a project which has enabled the team to share materials from the project (see: http://www.real–online.group.shef.ac.uk/).

Summary

Our consideration of literacy pedagogy began with a review of meta-analyses of research into effective literacy instruction that have been influential in shaping policy and practice internationally. These studies represent an important body of knowledge on what we know about some of the essential skills and strategies that are pivotal to literacy development. They are however, not without their limitations. The United States National Reading Panel Report (National Institute of Child Health and Human Development (NICHHD), 2000), for example, has been criticised for its narrow focus and emphasis on experimental or quasi–experimental research only, and its lack of attention to important qualitative research. Furthermore, it did not

examine the role of motivation and engagement in literacy, the teaching of writing or the role of parental or family involvement in children's literacy development.

Skills and strategies that are essential to effective literacy teaching in the early years include phonological awareness, phonics (for reading/ spelling), vocabulary, fluency, comprehension and writing (composition). It is important to distinguish between skills which are constrained and unconstrained (Paris, 2005). Once mastered constrained skills (e.g. phonological awareness, phonics, spelling, grammar, punctuation), contribute little to literacy development across the life span. In contrast, unconstrained skills (e.g. oral language, vocabulary knowledge, comprehension and writing) continue to develop and contribute to enhanced literacy development. It is especially important that unconstrained skills are given attention alongside the constrained skills in the early years' classrooms and that the emphasis is on reading and writing for meaning and communication from the outset so children's language skills and higher-order thinking skills are enhanced in parallel with the basic skills. This is particularly important for children in DEIS schools who, because they often struggle with the basic skills, may receive instruction that is more focused on those skills than on instruction that contextualises skills and provides opportunities for them to develop the more academic style of language utilised in schools.

Skills and strategies are best embedded within a research-based balanced literacy framework that provides opportunities for children to develop the essential skills in contexts that are meaningful, developmentally appropriate and which capitalise on the 'funds of knowledge' (Moll et al., 1992; González et al., 2005) that children bring from home. In reading, these contexts include, teacher read-alouds in a range of genres, make-believe play, shared reading of texts,

guided reading, reading workshops and opportunities for independent reading of self-selected texts. In writing, these contexts include opportunities for play, emergent writing, shared and interactive writing and writing workshops. Creating a culture of reading and writing for pleasure and information is important in cultivating a positive disposition to literacy. This can be enhanced through provision of a broad range of reading materials (print and digital) which children can also bring home to share with family, providing opportunities for children to collaborate and engage in high-level discussion about their books and the texts they are creating, all of which promotes the social dimension of literacy. A cognitively challenging balanced literacy framework such as this creates opportunities for children to develop their conceptual knowledge, their creativity and their imagination and to develop an understanding of literacy as a tool to be harnessed for the fulfilment of personal goals both within and outside school.

Given that there is no one best method for teaching literacy, we highlight a range of strategies with which all teachers should be familiar and the depth of expertise required by teachers. We also highlight the need for instruction to be guided by a range of assessment procedures (formative and summative, see Chapter 6) to enable teachers to differentiate and meet the needs of the children in their classes. The importance of teaching in ways that are motivating and engaging for children, and in ways that provide opportunities for them to experience optimum challenge, is highlighted. We also highlight the importance of building on success in meeting challenges and creating opportunities for children to develop their agency and sense of self-efficacy. The importance of scaffolding metacognition to the conditional level is also noted so that children can call on appropriate strategies as they engage in challenging tasks. This builds their persistence and academic resilience.

CHAPTER 5:
CONTEXTS FOR
LITERACY
TEACHING

What strategies does the research highlight as being particularly effective in supporting children's literacy development in different language learning contexts including children from socio-economically disadvantaged backgrounds, children whose first language is not the language of instruction, and children experiencing language delay?

DISADVANTAGE AND LITERACY

A number of studies published over the past 20 years have pointed to low levels of reading literacy among children in schools designated as disadvantaged (now DEIS) in urban areas. In a survey of reading standards in disadvantaged schools in 2003, almost 30% of children in first, third and sixth classes achieved scores at or below the 10th percentile on a nationally standardised test (Eivers, Shiel, & Shortt, 2004). The study indicated that those at greatest risk are children who attend the most disadvantaged schools, receive free medical care, are boys, have very low attendance, have few books in their homes, and were read to infrequently before formal schooling. Other studies (e.g. Weir, 2003; DES, 2005) found that achievement declined progressively as children moved up through the primary school. More recently, Shiel et al., (2011) identified lower average achievement among children attending scoileanna lán-Ghaeilge in the school support programme under DEIS, compared to children attending SLG outside DEIS.

A number of issues impacting on the development of children's

literacy skills in primary schools have been identified. Principal teachers in Eivers et al.'s (2004) study cited challenges their schools faced, including low parental literacy levels, lack of support from parents, disinterest in learning among children, large class sizes and poor access to psychological assessments. Issues relating to teaching have also been identified. According to DES (2005b), there was a lack of differentiation that would address the individual literacy needs of children, a lack of cohesion between classroom and support programmes, a restricted range of tools for assessing literacy, and lack of consistency in delivering instruction across classrooms. Internationally, differences have been noted in the nature and quality of instruction provided to at-risk learners, with children in disadvantaged schools receiving a slower pace of instruction, more emphasis on basic skills (often taught in isolation from authentic literacy contexts), and more fragmented learning experiences (e.g. more frequent withdrawal from their classrooms to work with specialist teachers) (Allington, 1994; Knapp, 1995).

Other reasons for the poor performance of children in disadvantaged schools include discontinuities between the language of the home and the literary language that children encounter in school settings (Cregan, 2007), lower levels of meaning vocabulary (Hart & Risley, 1995; Lee & Burkham, 2002), and lack of opportunity to use decontextualised language. Some studies point to the need to accelerate the literacy skills of children in disadvantaged communities so that they can bridge the gap with their more affluent peers (Eivers et al., 2004).

Internationally, a number of interventions have been proposed to address low levels of literacy among children in disadvantaged circumstances. Some of these have focused on prevention (e.g. through early learning programmes such as Head Start); others have intervened after formal reading instruction has begun (for example,

in first or second classes). The latter include Beating the Odds (Taylor et al., 2003), Designs for Change Study (1998), Hope for Urban Education (Johnson, 1999), Partnership Read/High Rise (Au, Raphael & Mooney, 2008), the Chicago Reading Initiative (Shanahan, 2002) and Success for All (Slavin et al., 1996). These classroom-based interventions share a number of important characteristics including:

- Adequate time for children to engage in intensive literacy learning (ranging from 90 minutes to 2 ½ to 3 hours).

- A balanced literacy framework that includes adequate attention to all the major aspects of literacy within authentic literacy contexts.

- Flexible and dynamic grouping of children, informed by ongoing formative assessment.

- Classroom environments with large numbers of real books matched to children's stages of development and interest.

- A meaning-based approach to instruction that promotes engagement in higher-order literacy skills (i.e. both unconstrained skills such as oral language discourse, vocabulary, comprehension and compositional writing (fiction and non-fiction) which are taught along with basic skills such as phonemic awareness, decoding, spelling and fluency).

- Integration of learning support and classroom teaching, with support teachers working in classrooms.

- A focus on instruction that is strategy-based, with teacher modelling, scaffolding of usage using a gradual release of responsibility to children, and an emphasis on the metacognitive aspects of learning (i.e. when, how and why a particular strategy should be used).

- An emphasis on motivating children to engage in meaningful literacy activities in which they encounter success as well as challenge.

- High teacher expectations for all children.

- The sharing of assessment data by all school staff at several points in the school year to set targets and improve teaching.

- Links between home and school that are designed to support literacy development.

- A high level of on-going professional development (often over many years) and non-evaluative observation and feedback for participating teachers.

- A school vision for literacy which all teachers develop, espouse and take responsibility for making a reality.

These evidence-based programmes present a set of generic principles and strategies for teaching reading. Other programmes, such as Reading Recovery, teach a specific set of skills following well-established procedures, and are targeted at individual children rather than class groups.

In Ireland, there is limited evidence on the efficacy of intervention programmes. However, an intervention by Kennedy (2008) in an urban DEIS school in north county Dublin, which incorporated many of the features of successful international intervention studies, resulted in significant achievement gains on both standardised and classroom-based measures of reading, spelling and writing (composition) among children in the first and second classes over a two-year period. An important feature of the study was the use of sustained onsite collaborative professional development, in which teachers enhanced their expertise, and received non-evaluative

feedback on the implementation of new approaches and methodologies. Another key feature was the cognitively-challenging nature of many of the learning activities, which included an emphasis on higher-order thinking skills as well as basic processes. This programme, which also sought to enhance children's creativity and agency, has now been extended to eight more schools in the Dublin area.

There is less clear evidence on the efficacy of other intervention programmes that have been implemented in Ireland. For example, no evidence on the impact of First Steps on the reading and writing development of children in urban DEIS schools has been published to date. It seems important that initiatives such as this would be evaluated intensively and their findings made known.

SPECIAL EDUCATIONAL NEEDS

Inclusive pedagogies

There appears to be a consensus among international and national research that school ethos, organisation and teaching approaches significantly influence the quality of social and academic experiences of children and young people (Griffin & Shevlin, 2011).

As more and more children gain access to general education classrooms (mainstream), schools and curriculum through the 'least restrictive environment' (IDEA, 1997) some important conceptual dilemmas/debates remain to be addressed. Access and presence in mainstream classrooms and schools is a necessary step towards inclusion, but it is not enough. What happens in those classrooms is equally critical to achieving genuine inclusive education. Ferguson (2008) outlined common themes in the research and in particular a distinct shift from

• a medical (categorical) model to a social model of disability

- an emphasis on teaching to an emphasis on child learning: curriculum designed strategies such as cooperative learning, project work, problem-solving offering services to offering support (shift from one size fits all)

- individual to group learning support (changing roles for teachers, special and mainstream support).

In Ireland an increasing number of children are being included in mainstream schools although consensus has yet to emerge around the most effective ways of ensuring effective participation in the mainstream (Griffin & Shevlin, 2011).

There is a shortage of evidence about the nature of teaching approaches that effectively include children with special educational needs (SEN) in mainstream classrooms (Rix, Hall, Nind, Sheehy and Wearmouth, 2009; Lewis and Norwich, 2005). Given the change in legislature here in Ireland together with the growing demand that children with SEN be included in mainstream settings, teachers must now take responsibility for the learning of all children including those with learning disabilities.

An extensive review and critique of research into teaching approaches used with children with different forms of learning disabilities sought to establish if these children required specialist pedagogy and if so, is this teaching specific to a particular special educational needs group (Lewis & Norwich 2000, 2001; Davis & Florian, 2004). Central to this question was the issue of inclusion. The definition of pedagogy adopted for the purpose of this review incorporates the broad cluster of decisions and actions taken in classroom settings that aim to promote school learning (encompassing pedagogic strategies and, more narrowly, teaching actions). In their review of the literature, Lewis and Norwich (2005), noted a trend away from special needs-specific pedagogies and took

the position that there is a need for more intense, focused teaching for those with special educational needs. They concluded that the notion of *continua of teaching approaches* is useful to capture the appropriateness of more intensive and explicit teaching for children with different patterns and degrees of learning disabilities. This concept helps to distinguish between the 'normal' adaptations in class teaching for most children and the greater degree of adaptations required for those with more significant learning needs. These are adaptations to common teaching approaches and have been called specialised adaptations or *high density* teaching. This has significant implications for fostering inclusive practice, for preparing teachers and for more exceptional forms of teaching. The essence of this 'continua of teaching approaches' emphasises high levels of practice to mastery, more examples of a concept, greater error-free learning and more bottom-up approaches to phonological approaches to literacy. In an inclusive classroom the teacher will be aware of the need to constantly revisit and consolidate the development of literacy skills for all children. Some children however, will need a higher level of practice and repetition to ensure mastery (McPhillips, Bell & Doveston, 2010). There are two areas of special educational needs (SEN) however, which, it is argued, require a distinctive group specific pedagogy. These are autistic spectrum disorders (ASD) and attention-deficit/hyperactivity disorder (AD/HD) (see next sub-section). For the other special educational needs, it is assumed that adaptations to generic strategies by degrees of deliberateness and intensity of teaching are effective (see table 5.1).

Table 5.1 Provisional framework of continua of pedagogic strategies

Examples of pedagogic strategies	Continua of strategies for perceived attainment levels	
	High intensity	**Low intensity**
Provide opportunities for transfer	Explicit and teacher-led	Autonomous (child-led)
Shape task structure	Small discrete steps, short-term objectives emphasised	Larger steps, longer-term goals emphasised
Provide examples to learn concepts	Many and varied, but maximal difference on single criterion stressed	Few examples provided
Provision of practice to achieve mastery	Extensive and varied	Little
Provision of task-linked feedback	Immediate, frequent, explicit, focused, extrinsic	Deferred, moving to self-evaluation
Checking for preparedness for the next stage of learning	Explicit and frequent, teacher monitoring emphasised	Fleeting (by the teacher), self-monitoring stressed

Lewis & Norwich, 2005, p. 6.

There is broad agreement in the literature with this viewpoint (Rix et al., 2009). A common theme across all the studies is the powerful role the teacher plays in shaping interactions and influencing learning opportunities through those interactions. Prolonged engagement in the interactive process with children with SEN encourages them to make connections with prior knowledge and to problem-solve. These researchers also conclude that there is a role for activities that are visual, verbal and kinaesthetic, drawing on a multi-sensory approach and teaching to the strength of the learning modality. In addition, teachers have a greater ability to include all children, if they have a shared curricular and pedagogic understanding and can become a part of communities of practice involving teaching staff, teacher educators and academics.

Autistic spectrum disorders and literacy

The complex nature of autistic spectrum disorders (ASD) is well documented in the literature. According to Volkmar (1998), autism is a life-long neurological disability of unknown aetiology.

In its *Diagnostic Manual of Mental Disorders* (DSM–IV–R), the American Psychiatric Association (2000) describes autism as a severe form of a broader group of disorders referred to as pervasive developmental disorders (PDD). The term autistic spectrum disorder is used to incorporate the range of needs that may present in this condition (Lord & Risi, 2000). Some researchers argue that Asperger syndrome is simply a subgroup within the autistic spectrum disorders spectrum, while others believe it is a different form of disability representing a discrete group of higher-functioning individuals with only a few autistic tendencies (Baker & Welkowitz, 2005). Individuals with Asperger syndrome (AS) tend to have cognitive skills in the average or above average range (Westwood, 2007).

Regardless of the term used for identification, autism is characterised by difficulties which manifest as impairment in social relationships, social communication and social imagination. The term given to this cluster of needs is the *triad of impairment* (Wing, 1988). It can include restricted or repetitive behaviours and interests, each of which can occur in different degrees of severity (Landa, 2005). Children with autism may be also bothered by certain sensory disturbances such as light, odour, texture and touch, and noise level. At the more extreme end of the spectrum, individual children often display repetitive and stereotyped behaviour, e.g. rocking, twirling objects and waving fingers in front of their faces (Nadel & Poss, 2007). They may have little ability to initiate social interaction and may not possess any verbal communication skills. Some children may be diagnosed as having high-functioning autism (HFA). The impact of the triad of impairment is lifelong, affecting many aspects of the developing child, including access to education.

Some children with HFA or Asperger syndrome may be described as being hyperlexic. Children with hyperlexia have been found to have word recognition skills well above their measured cognitive and

linguistic abilities. They can learn to read spontaneously before the age of five but are impaired in reading and listening comprehension (Grigorenko, Klin, Pauls, Senft, Hooper & Volkmar, 2002). This is partly as a result of their deficit in what is known as *theory of mind* whereby they do not understand that other people have different thoughts and opinions. As a result they prefer to read information texts or literature in the non-fiction genre. In addition certain elements of comprehension cause particular difficulty e.g. the ability to infer from a given text. Thus explicit teaching of comprehension strategies as identified by Pressley, (2000), is essential to their literacy programme. In the case of children with ASD however, there must also be a heavy emphasis on structured teaching such as Treatment and Education of Autistic and Related Communication-Handicapped Children (TEACCH) which provides visual supports to address their strength as visual learners (Schopler, 2001).

Moving beyond sight words

Many children with special educational needs such as autism, can, with help and encouragement, become active participants in the construction of literate meanings and the following examples of strategies have been found to be effective with some learners with autism.

- Teachers should recognise all literacies and different developmental sequences of literacy for individual children.

- Teachers should build on children's interests and incorporate these interests into literacy activities where possible

- Abstract concepts and language are challenging for many children with autism (Kluth & Darmody-Latham, 2003). Teachers can use a range of visual supports, for example: flow charts, concept maps, visual or graphic organisers. These can support the development

of concepts such as *over* and *under*. Visuals can be used to teach jokes, figurative language or words with multiple meanings.

- It may be more effective to teach children through distributed rather than massed practice (Solity, Deavers, Kerfoot, Crane & Cannon, 1999). Three 10–15 minute literacy sessions per day are considered to be more effective than daily hour long sessions.

- Shared reading and writing is beneficial for all learners with SEN. Although the texts may be beyond an independent level of the child, structured sessions where there is repetition and teacher questioning directs their attention to aspects of the text appropriate to their current level of achievement and learning needs (Gross et al, 1999).

- Reading aloud is effective in helping children to better understand print and to interact around written communication (Kluth & Darmody–Latham, 2003)

- Teachers should encourage different types of expression and communication across activities. Teachers may need to communicate in a variety of ways to reach all children, using props, puppets, rhymes, conversations, songs (Kluth & Darmody–Latham, 2003)

- Modeling of strategies and explicit instruction are features that are beneficial to children with SEN in both special and mainstream schools (Frederickson & Cline, 2002).

One example of a structured literacy programme that is considered successful for children with autism is Edmark.

Drawing on the advice of Norwich and Lewis (2005), as previously mentioned, there is a need for intense and focused teaching for those with SEN.

Access to the world of literacy for children with severe and profound learning disabilities

The learning needs of children with severe and profound general learning disabilities can be varied and complex. The Curriculum Guidelines *Communication and Language: Guidelines for Teachers of Students with Severe and Profound General Learning Disabilities* (NCCA, 2007a), suggest that learning for these children is a spiraling process. A framework of three broad bands within which these children are expected to learn is provided. The bands are structured as a spiral of attending, responding and initiating. It is expected that children may move between these potential levels of attainment at different times. In relation to the development of reading and writing in these children, it is important to emphasise that individual differences among children cannot be ignored and that flexibility is the key to successfully teaching children with SEN in the mainstream classroom (Grainger & Tod, 2000).

Fundamentally, reading is about understanding and using symbols to convey meaning. MENCAP present a different perspective of literacy for these children, believing that books

> *do not have to be conventionally read to be enjoyed.*
> *Information and stories do not have to be conventionally*
> *understood in order to learn from them. Stories do not have to*
> *be conventionally written down to convey meaning.*
> (MENCAP, 1999, p. 5)

Literacy for these children must be interpreted broadly. In this way books are no longer a barrier for those who cannot read traditional print. *Sensory literacy* is used to facilitate the enjoyment of story and drama through the five senses—auditory, visual, tactile, olfactory and gustatory. Children enjoy the pleasure of being a part of a group listening to their favourite patterns of sounds, rhyme and rhythm of a

familiar story. Longhorn (2001) suggests that these children can connect with the world of literacy through the following:

- access to the world of poetry, drama, literature and environmental print

- communication through a range of different media–drama, making a mark, the tempo of a variety of sounds

- motivation: a fluorescent book to read or a spooky poem to tap into different emotions

- choice and preference opportunities: choosing a poem, watching a preferred video story

- extend life skills: using a pictorial shopping list or going to the cinema

- inclusion: being literate and communicating within a group.

These behaviours which are purposeful, complex and related to literacy can enhance the child's skills and knowledge when supported by the teacher.

TIERED APPROACH TO ASSESSMENT

The Education for Persons with Special Educational Needs Act (2004) deems that it is the right of all children

> *to be educated in an inclusive environment with children who do not have such needs unless the nature of or degree of those needs of the child is such that to do so would be inconsistent with (a) the best interests of the child as determined in accordance with any assessment carried out under this Act, or (b) the effective provision of education for children with whom the child is to be educated.* (EPSEN Act, 2004, Section 2)

Since the enactment of this bill the increase in children with SEN attending mainstream schools has multiplied. To address the assessment of all children with learning needs a three tiered approach to assessment has been introduced. The first stage refers to the awareness that a child is not making progress under the common instruction being given to all children without SEN. Stage two involves the implementation of additional strategies to meet the educational needs of the child concerned. If the child fails to benefit from these supplementary measures, the principal, in consultation with the parents may refer the child for a formal assessment. At this point a careful schedule of timing is in process. This assessment must be carried out not later than one month of the decision being made and must be completed within three months.

INDIVIDUAL EDUCATION PLAN (IEP)

Where the child is assessed as having SEN, an individual education plan (IEP) must be developed within one month of receipt of the assessment. This is a collaborative process and should include the parents, the teacher and any clinical staff who are involved in the child's education. It is imperative that the attendance of the parents at the scheduled IEP meeting is facilitated. The learning targets generated for the IEP incorporate the priority learning needs of the child until the end of the year. Guidelines for the implementation of the IEP are available (National Council for Special Education, 2006).

ENGLISH AS AN ADDITIONAL OR SECOND LANGUAGE

Early childhood education settings can be divided into three major categories regarding language use: (i) where the first language or L1 is the primary language of the classroom; (ii) a bilingual classroom where instruction is scheduled so that both languages are used; (iii) classroom where English is used for all interaction – the primary language is English. In practice, however it is difficult to categorise

instructional programmes regarding language use as each language classroom may take a variety of forms of instruction (Tabors, 2008). Even though young children are predisposed to learning more than one language, learning to understand and express language proficiently is a huge task which requires time, patience and language supports (August & Shanahan, 2008; Castro et al., 2011; Tabors, 2008).

During the early childhood years, children are engaged in extended oral language development in their first language as they become familiar with the components of oral language: phonology (sounds of language); vocabulary (words); grammar (how words can be put into sentences); discourse (how sentences can be put together to tell stories or to explain how something works); pragmatics (rules about how to use language). These aspects of oral language are also closely linked to literacy development in young children (Snow, Burns & Griffin, 1998).

There are however individual differences in how children develop along this developmental pathway. Wong Fillmore (1979) described how young children who are learning English as an additional language (EAL) vary according to their motivation, exposure to the second language, age and personality. These cognitive and social factors interact together and affect children's language acquisition. Placing young children in English language care settings at a very young age where they may begin to prefer English leading to the loss of their home language may lead to an inability to communicate with parents, siblings and grandparents (Escamilla, 2005). This has implications for home language support to help ensure uninterrupted conceptual development in young children who are dual language learners as they acquire English (Thomas & Collier 2002). Supporting the development of the child's home language ensures that children who are dual language learners will not fall behind in

their conceptual development and academic skills as they acquire English.

Classroom talk and L2 learners

Rich contexts for second language development can be provided by both *child to child talk* and *teacher-child talk*. This has implications for classroom management. Productive talk needs to be deliberately and systematically planned and scaffolded by the teacher in order to support language development (Gibbons, 2002). For example, tasks which not only encourage but *require* group talk, will ensure an authentic purpose for carrying out the activity. Where talk is necessary to carry out the task, or tasks which involve some kind of 'information gap' (e.g. where different members of a group hold different information or incomplete information so information must be shared), this creates an authentic purpose for communication. Organising the class into 'expert' groups whereby different groups of learners become 'experts' in a particular aspect of a topic (e.g. *insects* could be researched under headings such as *description, habitat, food, life cycle, interesting fact*) also fulfills the principle of creating an 'information gap' to support the pedagogic task (Gibbons, 2002).

Small group activities will ensure inclusivity among the group and lower the 'affective filter' (low level of stress) in the child's environment (Krashen, 1982; 2009). Getting help for the L2 learner from English-speaking children will also support the 'comprehensible input' of classroom routines and instructions. In the junior classroom, 'safe havens' for the L2 children may be provided by Lego, Jigsaw puzzles and manipulative games. Language is encouraged for meaningful and authentic purposes. Fine-tuning of spoken language by the class teacher is needed to reiterate and scaffold production of language by expanding, repeating and extending the child's use of language and even by using a few important words in the child's home language. The helpfulness of classroom routines, (e.g. taking

turns; tidy up tasks; daily schedules) and the repetition of phrases and sentences provide opportunities for language use and interaction in a natural setting (Tabors, 2008).

Using the curriculum to support language and literacy

For young children in the early years classroom, the curriculum supports language and literacy development through *activity* time. This could be teacher-directed activity, or child-initiated activity. Teacher-directed activity for example, could include a 'running commentary' or 'talk aloud' while doing the task. Child-initiated activities would include free play activities such as make-believe or socio-dramatic play (e.g. playing shop), whereby the language is embedded in the context of the play situation.

Other activities include book reading in small groups, re-reading the story, retelling the story, talking about the story, and reading to other children. Playtime activities and circle time also provide opportunities for language use and stimulate social interaction among children who are learning English as additional language (See also *Aistear*; NCCA, 2009).

Activities which support literacy development for young L2 children include the following:

• activities that target letter recognition

• activities that emphasise phonological awareness (sounds in words)

• activities that emphasise concepts of print (how books work)

• activities that emphasise vocabulary development (words and meanings)

• activities that emphasise storytelling, explaining how things work etc. (Tabors, 2008).

Relationship between L1 and L2 reading

For the child who is also an English language learner, second language reading involves two languages. There are continual interactions between L1 and L2 reading and adjustments must be made according to the demands of each language. These cross linguistic interactions capture the concept of an L2 reading system which continues to mature as the reader experiences further exposure to L2 print (Koda, 2007).

The development of L2 reading ability, according to Grabe (2009), results in more than L1 transfer. L1 transfer has an important role to play but issues such as the development of L2 language proficiency, L2 language exposure, L2 print exposure and L2 processing skills development tends towards an emerging view of L2 reading that suggests L2 reading is learning to read *with* languages. This resonates with connectionist theories of cognitive processing (Ellis, 1998) and dynamic language learning systems (Ellis, 2005, 2006).

Major differences between L1 and L2 reading are summarised as follows:

1. Linguistic and processing differences.

2. Developmental and educational differences.

3. Socio-cultural differences.

1. The differences between L1 and L2 reading are more apparent with beginning readers and readers who struggle with word recognition. L2 readers will not match their L1 counterparts in terms of vocabulary knowledge, semantic and syntactic knowledge and the morphology of the L2. L2 reading will also be influenced by the knowledge of the learners L1. Linguistic differences between the two languages in phonology, orthography, grammar,

lexical and metaphoric uses of language may all generate significant differences in the way the text is processed. The process of switching from L1 to L2 and back again and translating, creates additional processing costs for the L2 reader (Grabe, 2009). Meta-linguistic processing includes an awareness of how the language systems work and how to use the system for particular tasks (Bialystok, 2005). The successful L2 reader has a high level of meta-linguistic awareness of both vocabulary knowledge and syntactic knowledge.

L2 readers may be slower at word recognition and less accurate in word recognition processing (Bialystok 2005). They may also have a slower reading rate for a variety of reasons – less processing practice in L2, new orthography in L2, differing patterns of morphology represented in L2. All this may slow word recognition, syntactic processing and semantic links into the main ideas that emerge from the text.

2. Most L2 readers have only limited exposure to L2 print from their classroom, whereas L1 readers encounter millions of words in their L1 from early on in their school experience. Readers also have different motivations for reading in L2 compared to their L1. Reading in L2 will differ for most children in terms of purposes and goals. The academically-oriented child, however, is commonly considered to have higher metalinguistic awareness than monolingual L1 readers (Koda, 2007; Bialystok, 2005). These children make mental translations from L2 back to L1 with difficult texts, they notice differences and similarities between L2 and L1 structures. They use metalinguistic awareness to examine the context of unknown words to infer possible meanings- they draw connections at more abstract level between L1 and L2 knowledge and skills (Grabe, 2009).

3. Institutional, social and cultural expectations shape the literacy

events that are enacted in any society and also influence the experience of the L1 or the L2 learner. For L2 readers, the role of the book, or the text, may be very different to their L1 literacy experiences. The organisation of text books, and the types of genres experienced in L2 reading may also have considerable impact on the experiences of the L2 reader.

In Ireland, research supports the current practice of introducing children to literacy learning in Gaeilge (L2) at an early stage of the L2 learning process (second class, age 7-8). Children benefit from the early systematic introduction of reading and writing as reported in this research report (Harris & Ó Duibhir, 2011).

In a recent best evidence synthesis of studies which examine the development of L2 literacy skills, the researchers found that an effective method is for the teacher to read texts aloud. The children follow the text as the teacher reads it. This helps the children focus on larger units of meaning in the text rather than depending on word by word decoding (Amer, 1997, cited by Harris & Ó Duibhir, 2011). Evidence shows that the development of children's L2 literacy skills supports the development of their second language proficiency in general. Reading aloud (teacher reading aloud to children) is a useful strategy to model correct pronunciation, stress and intonation and to help the children develop comprehension skills by focusing on units of meaning. This is particularly important in the beginning stages of language learning (Harris & Ó Duibhir, 2011).

The question of when to introduce formal phonics teaching to English language learners has been addressed in the literacy curricula in different jurisdictions. The Finnish curriculum for L2 suggests that the main emphasis in grades 1 and 2 (7-8 years) should be on the comprehension, repetition and application of what one has heard and on practicing oral communication. The written form of the language is used to support oral practice through listening and speaking.

Instruction is integrated into content and themes that are within the children's experience. Instruction is playful and functional in nature (Finnish National Board of Education, 2004).

A synthesis of evidence-based research suggests that balancing focused classroom activities and meaning-focused activities is important. However there is no clear guidance on the optimum balance, but some studies suggest that alternating between activities that focus on developing fluent expression and confidence and those that focus on accuracy of form and meaning can be useful. Practices which supported effective literacy and English language instruction for English learners and were considered to have a strong level of evidence for English language learners are as follows:

- Focused intensive small group interventions for English language learners considered to be at risk for reading problems: interventions should include core reading elements (phonological awareness, phonics, reading fluency, vocabulary and comprehension). Explicit direct instruction is recommended.

- Extensive high quality vocabulary instruction to be delivered throughout the day. Teach essential content words in depth; emphasise the meanings of everyday words.

- Conduct formative assessments with English learners using English language measures of phonological processing, letter knowledge and word and text reading. Use this data to identify English learners who require additional support and to monitor progress over time.

- Provide opportunities for regular peer-assisted learning.

It is surprising that a fifth recommendation to develop academic or formal vocabulary received a low level of evidence. A strong consensus of expert opinion supports the explicit and deliberate

instruction of academic vocabulary across the content areas (August & Hakuta, 1997; Fillmore & Snow, 2000; Gersten et al., 2007).

EAL and SEN: disability or difference?

There is strong evidence in the literature of a long history of disproportionate representation of children with EAL in special education (Artiles, 1998; Dunn, 1968; Orfield, Losen and Edley, 2001). One factor may be a mismatch between the learner characteristics and the materials and teaching methods presented in school, which contributes to underachievement among this group of children (Powers, 2001; Vogt and Shearer, 2007). Much of what children understand and are able to do in school is based on their background and many children who are culturally and linguistically diverse may not have the requisite background knowledge and experience to perform well academically, nor have the behaviours that are consistent with the values of school. In general, children achieve better educational outcomes if they have been reared in a culture that has expectations and patterns of behaviours that are consistent with those of the school.

Disproportionate representation of EAL children in special education is most pronounced among the children with mild and moderate general learning disabilities (GLD). Data derived from the USA indicates that more than 17% of Hispanic students are labelled as having a specific learning disability even though they account for only 12-13% of the population (Office of Special Education Programs, 2002). All children who receive a placement in special education go through a referral, assessment and placement process. The fundamental issue with regard to over-representation of the EAL group in special education is that of 'difference' versus 'disability' (Echevarria, Vogt and Short, 2008). For children with low English language proficiency, gaps in educational experience and cultural differences influence the referral process. The two main factors that

influence referral are (1) teacher tolerance and (2) the interaction of perceived child ability or behaviour with the teacher's own expectations and approach to instruction and classroom management (Podell & Soodak, 1993). Losen and Orfield (2002) emphasise the subjectivity of the evaluation process, including whom to test, when to use alternative assessments and how to interpret results. There is also the issue of cultural bias when assessing children with EAL.

An effective system for assisting children with EAL who are struggling in school involves site-based teams (Ortiz, 2002). The use of these site-based teams which provide children with EAL supplementary instruction in the mainstream setting have proved very effective in reducing the number of referrals and special education placements (Fuchs, Fuchs and Bahr, 1990; Powers, 2001; Ysseldyke and Marston, 1999). Given this trend and the number of children with EAL in Irish schools, it is an issue of which we need to be very mindful.

Literacy in English in Irish-medium schools

A recent survey of English reading standards in Irish-medium schools indicated that, on average, children in both second and sixth classes in gaelscoileanna performed well above national levels, though performance was in line with the average socioeconomic status of these schools (Shiel et al., 2011). The survey also revealed that 73% of second class children in gaelscoileanna began formal reading instruction in Irish, 17% did so in English, and 11% did so in both English and Irish together (despite a recommendation in the Primary School Curriculum not to begin both simultaneously). There were no significant differences in the average reading achievement of children who attended schools where the policy was to begin reading instruction in Irish, English or Irish and English together. In interpreting these findings, it should be noted that children attending gaelscoileanna may not depend entirely on school-based instruction

to progress in English reading, as input may also come from the home and from the environment outside school. Fewer than 10% of children in gaelscoileanna attended schools participating in the School Support Programme (SSP) under DEIS. These children performed significantly less well than children attending gaelscoileanna outside SSP.

In the same study, children in Gaeltacht schools performed less well in English reading than their counterparts in gaelscoileanna at second class, but were not significantly different at sixth class, though they lagged a little on higher-order thinking questions (those categorised as 'examine and evaluate'). The outcomes of this and other studies indicate that, while many make a relatively slow start in English reading, their average performance improves over time.

There has been a policy debate in Ireland for some time on when children in Irish-medium schools (and gaelscoileanna in particular) should begin formal work on language and literacy in English. A circular issued by the DES in 2007 required Irish-medium schools to begin instruction in English no later than the second term of junior infants. This circular was withdrawn some years later, following a High Court case.

The outcomes of research into the optimum time to introduce instruction in English in Irish-medium schools are inconclusive (NCCA, 2006; Ó Laoire & Harris, 2006). Indeed, Ó Laoire and Harris argued that the decision of a school to begin instruction in English or Irish reading first may well be a consequence of the needs of children in the school, and the same policy may not be appropriate for every school. Clearly, an issue such as this can only be resolved through experimental research that assigns children to different language conditions for extended periods of time. Nevertheless, it is clear that there is some crossover between

languages (for example, Irish to English), where reading development is concerned.

Many of the strategies for developing children's literacy skills that were outlined in this report over several chapters are also appropriate for children learning English reading in Irish medium-schools.

SUMMARY

Disadvantage and literacy

In a survey of reading standards in disadvantaged schools here in Ireland in 2003, almost 30% of children in classes 1, 3 and 6 achieved scores at or below the 10th percentile on a nationally standardised test. Internationally, a number of evidence-based interventions have been proposed to address low levels of literacy among children in disadvantaged circumstances. Some of these have focused on prevention; others have been put in place after formal reading instruction has begun. These interventions present a set of important principles and strategies for teaching literacy, including allocation of sufficient time to literacy instruction, implementation of a balanced literacy framework with emphasis on meaning-based instruction, use of flexible and dynamic grouping of children, development of classroom environments with large numbers of real books matched to stages of development and interest, and use of a metacognitive approach to strategy instruction. Sharing of assessment data between teachers, cohesion between class and support programmes, ongoing links between home and school, and access to customised, on-site professional development are also highlighted.

As children in disadvantaged schools often struggle with basic skills, research indicates they often receive qualitatively different and less motivating instruction to their more privileged peers, including a slower pace to instruction, fewer opportunities to read, write and discuss extended text, a heavier emphasis on basic skills and a greater

likelihood of being withdrawn from the classroom (Duke, 2001). An over-emphasis on basic skills is identified as being particularly problematic if it occurs in the absence of meaning-oriented instruction (Knapp, 1995).

Special educational needs

Evidence from international studies and insights into effective practices which promote inclusion for all children suggest that the principles of good teaching are essentially the same for all children, including those with special educational needs. However, while teachers may need to make 'normal' adaptations to teaching methods in class teaching for the majority of children, a greater degree of adaptation may be required for those with more significant learning needs (e.g. severe dyslexic difficulties). Hence, some learners with special needs may need high levels of practice, more examples of a concept, and greater error-free learning to master key skills. Others may benefit from intensive multi-sensory learning opportunities. This work can be supported by the use of a three-tiered approach to assessment, up to and including the specification of learning targets as part of an individual educational plan (IEP).

English as an additional language: EAL

In recent years, there has been a significant increase in the proportion of children in preschool and primary school classrooms whose first language is not English or Irish. Very often, these children speak in their first language at home, and hence may have insufficient English (or Irish) to fully participate with their peers in class. One approach to ensuring that children develop adequate vocabulary and conceptual knowledge in the early years is to provide instruction in both the language of the home and in the language of instruction at school. However, it is recognised that this is not always possible in instructional or assessment contexts. In such circumstances, there may be no alternative but to work intensively on building EAL children's oral

language capacity in the language of instruction, up to the level required for success in literacy and in other areas of the curriculum. This level, called cognitive academic language proficiency or CALP by Cummins (1991, 2000), is different from, and takes longer to develop than basic interpersonal communication skills (or BICS).

The question of when to introduce formal phonics teaching to EALs has been addressed in the literacy curricula in different jurisdictions. The Finnish curriculum for L2 learners suggests that the main emphasis in grades 1 and 2 (7-8 years) should be on the comprehension, repetition and application of what one has heard and on practicing oral communication. Reading is used to support oral practice through listening and speaking. Instruction is integrated into content and themes that are within the children's experience. However, it is less clear if a seamless transition can be made from oral language to reading in the case of more orthographically complex languages such as English.

There are many challenges related to assessing the language and literacy of EAL children. Where a child has only limited competence in the language of instruction, bilingual support in assessment situations is recommended. There is strong evidence in the literature of a long history of disproportionate representation of children with EAL in special education, especially in the United States (Artiles, 1998; Dunn, 1968; Orfield, Losen & Edley, 2001). This is most pronounced among children with mild and moderate general learning difficulties, and may be due to the use of language-based tests in making diagnoses. It represents a view that large numbers of EAL children have learning disabilities, when in fact they are merely different (Echevarria, Vogt & Short, 2008). The use of site-based teams that provide EAL children with supplementary instruction in the mainstream setting has proven effective in reducing the number of referrals and special education placements (Fuchs, Fuchs & Bahr, 1990; Powers, 2001; Ysseldyke & Marston, 1999).

C H A P T E R 6 :

A S S E S S M E N T

What practical advice does the research offer on assessing and planning for progression in children's literacy development
a. at teacher/classroom level? and
b. at school level?

The document *Assessment in the Primary School Curriculum: Guidelines for Schools* (NCCA, 2007) outlines a range of classroom assessment practices and ways in which these can be used to inform instruction. The guidelines also draw educators' attention to the functions of assessment, i.e. assessment for learning and assessment of learning, and the relationship between function and choice of assessment strategy. The guidelines for assessment in *Aistear* (NCCA, 2009), which focus on learning among children from birth to six years, describe a range of formative assessment strategies that are particularly suitable to assessing early literacy development. Both *Assessment in the Primary School Curriculum* and *Aistear* are concerned with assessing a broad range of learning outcomes. The focus of the current chapter is more specific in that it deals with assessment of reading and writing, and, where it is relevant for development in these areas, oral language. First we consider the roles of assessment for learning and assessment of learning in assessing early years' development in language and literacy. Second, we look at which aspects of early years language and literacy should be assessed in each of several areas (oral language, concepts of print, phonological processes, fluency, vocabulary, comprehension, spelling and writing). Third, we look at different tools that can be used to assess literacy. Fourth, we look at a number of assessment frameworks in terms of how they can provide teachers with a conceptual understanding of key elements of assessment, as well as approaches to arriving at overall estimates of children's literacy

skills at the end of a school year. Fifth, we look at issues in the assessment of children for whom English is an additional language. The concluding section looks at how assessment can inform planning at teacher and school levels.

FORMATIVE AND SUMMATIVE ASSESSMENT OF EARLY LANGUAGE AND LITERACY

Formative assessment

In the US, Bowman, Donovan and Burns (2001) suggested that the term assessment, as applied in early childhood education, generally implies the intention to provide a rich picture of the ways in which young children act, think and learn. Formative assessment i.e. assessment that promotes learning (e.g. Gipps, 1994; Torrance, 2001) involves educators in documenting, analysing and reflecting on the information collected, and using this to plan and support further learning (Hurst & Lally, 1992; NCCA 2007b; 2009). Assessment is an on-going process and involves observations of children in interesting, meaningful challenging and worthwhile experiences (Bowman et al., 2001; Meisels, 1999; Torrance, 2001). This approach to formative assessment is promoted and developed in the guidelines for assessment in *Aistear* (NCCA, 2009).

Recognising the nature of early learning

It is critical that approaches to the assessment of early literacy recognise that during early childhood, children's learning across the various dimensions of development (e.g. physical, motor, linguistic, emotional) is greater than at any other period, but is also highly variable across the dimensions. Young children's language and early literacy development will share the same variability. Learning in this period occurs very rapidly, is episodic in nature and very susceptible to environmental conditions (Shepard, Kagan & Wurtz 1998).

Educators have consistently sought to convey the extent and complexity of early learning (e.g. Athey, 1990; Drummond, 1993; Nutbrown, 1999; Bowman, Donovan & Burns, 2001; Carr, 2002). Authors such as Bissex (1980), Paley (1990) and Edminston (2008) have illustrated in vivid terms how young children engage with the complexity of learning to read while simultaneously engaging with issues related to, for instance, identity formation. Similarly, authors such as Hall (2010) and Ring (2010) show how, as young children learn to use written language, they engage in processes related to identity construction and to meaning-making.

Use of summative assessment

Although the predominant approach used to assess learning outcomes in early childhood will be a formative one, there will also be occasions when it is necessary to implement summative assessment, where a caregiver or teacher generates an overall estimate of a child's performance on some aspect of language and literacy. This may occur in the context of summarising performance across a number of formative assessments administered over several weeks or months. As described below, there are a number of tools that can be used to generate this overall picture of performance, including curriculum profiles and proficiency scales.

Another context in which summative assessment data are generated is when caregivers/teachers or other professionals (e.g. psychologists, speech therapists) administer a test that assesses some aspect of language or literacy. In general, there is a reluctance to assess early learners using formal tests. This is because the scores achieved by young children in test situations tend to be less reliable than those achieved by older children. Nevertheless, formal tests such as the *British Picture Vocabulary Scale* and the *Drumcondra English Profiles* can provide overall estimates of performance on key early literacy skills that are norm-referenced (i.e. interpretable in terms of the

performance of an appropriate comparison group), as well as criterion–referenced, in that they provide information that can be used to inform instruction provided certain key principles regarding assessment in early childhood are adhered to.

Principles of literacy assessment in early childhood

Snow and Oh (2011) promote a set of key principles which they consider critically important for language and literacy assessment in early childhood. First, assessment should start with observations of naturally occurring behaviour under normal conditions. Second, parents can contribute very useful and reliable information regarding their child's learning, especially the early stages of language and literacy development. Third, when testing is used it is important that test outcomes are used in conjunction with observations. Fourth, assessment procedures should be embedded into instructional situations. Fifth, teachers need the skills necessary to carry out embedded assessments reliably.

An issue identified by Snow and Oh (2011) is the fact that *small domain* measures (p. 382) are easy to assess when compared to more complex aspects of language and literacy such as academic language use. For example, letter names and phonological awareness assessments are seen by Snow and Oh as 'typically brief and reliable' (2011, p. 378). However it is also acknowledged that the skills associated with a child's understandings of literacy and text are very difficult to assess except through highly interactive and dynamic interactions between educator and child (Snow & Oh, 2011).

WHAT TO ASSESS IN EARLY LITERACY

In this section, we identify aspects of early language and literacy that can usefully be assessed by caregivers and teachers. They include oral language, concepts about print, vocabulary and academic language, reading comprehension and writing (composition).

Oral language

The aspects of oral language that should be assessed in early years children will often be defined by the curriculum or framework upon which teaching and learning is based. Therefore, careworkers and teachers using *Aistear* will assess children's performance on aspects of oral language embedded in the aims and goals of the communicating theme, including children's ability to:

- use verbal and non-verbal information to get their point across

- interact with other children and adults by listening, discussing and taking turns in conversation

- use sound, pattern, rhythm and repetition in language

- use language for giving and receiving information, asking questions, requesting, refusing, negotiating, problem-solving, clarifying and thinking

- share their thoughts and feelings through storytelling, roleplaying and problem-solving.

In general, assessment will occur in the context of play activities, including informal sharing of stories and more structured activities such as roleplay.

In addition to monitoring the uses of language outlined in *Aistear*, preschool educators should monitor broader developmental aspects of children's language, especially semantics (see section on vocabulary below), phonology (sounds), and grammar (syntax and morphology), and decide whether development is on track, or whether more detailed assessment may be warranted. The use of more formal tests may be required in cases where it is suspected that a child may have a language delay (see Enz & Morrow, 2009; Snow & Oh, 2011; and Shiel et al. (2012) for examples of language tests that can be

administered to children in preschool and in the infants' classes in primary schools). Information may also be obtained from parents about their child's language usage at home.

Concepts about print

As noted in Chapter 3, a key aspect of early literacy development is the emergence of concepts about print. Concepts about print represent a key first step in the development of the skills needed to decode written text. Children grasp the notion that one object or event may stand for another at a very early age (Marzolf & DeLoache, 1994), and it is through a progression in this skill that children develop the alphabetic principle. They form concepts about literacy and print from the earliest years, by observing and interacting with readers and writers, such as family members or preschool teachers, as well as through their own attempts to read and write (Sulzby & Teale, 1991). Children learn about the nature of word, sentence, paragraph and text structures and the sorts of thinking and devices that hold them all together. This type of learning depends on experience and exploration, as well as on key conceptual insights. Literacy growth depends on learning to treat language as an object of thought in and of itself (Snow, Burns, & Griffin, 1998). Before going on to learn about relationships between printed letters and their corresponding sounds, children should understand that print can and does make sense as well as know the functions and conventions of the printed word. For example, visual word recognition can develop only when children shift the belief that print is like pictures with the insight that written words are comprised of letters that in turn map to speech sounds.

Although concepts about print usually come about as part of the child's preschool development, the amount of print a child is exposed to varies hugely (Adams, 1990), and so children's concepts about print may also vary. Enz and Marrow (2009, p. 76) suggest that the

following concepts need to be explicitly taught and, by implication, assessed:

- *Graphic awareness:* awareness that print carries a message. When children 'write' lists and letters or 'play read' text using pictures and memory, they demonstrate an understanding of this concept.

- *Writing and its connections to conventions of print:* an understanding that print is organised in a particular way. Lists start at the top of the page and proceed down.

- *Emergent reading, concepts about books and their connection to conventions of print:* an understanding that books are predictable and organised, with a cover title and author.

- *Alphabetic principle:* the awareness that printed language consists of sentences, words, and letters and that letters consistently match to the sounds of spoken language.

One of the most commonly used tests of print awareness is the *Concepts about Print Test* (CAP) developed by Clay (1985). The test consists of a short storybook with pictures and text that is read to the child. The person administering the test looks at whether the child knows the front of the book, that print and not pictures tells the story, what a word is, what a letter is, and where the first letter in a word is found. Tunmer, Herriman and Nesdale (1988) reported that scores on CAP during kindergarten predicted decoding knowledge and reading comprehension at the end of second grade. The 'concepts about books and conventions of print checklist' provided by Enz and Morrow (2009) (figure 23, p. 93) may also be useful to carers and teachers working with children in the 3–5 years age range.

Dispositions

Dispositions have emerged as central in the debate about what is of lasting value in learning. Dispositions are regarded as 'relatively enduring habits of mind and action, or tendencies to respond to categories of experience across classes of situations' (Katz & Chard, 1992, p. 30). They dispose learners to interpret, edit and respond to learning opportunities in characteristic ways (Carr, 2001). Desirable dispositions might include perseverance, risk-taking and curiosity. Helplessness is an example of an undesirable disposition. Young children (under five years) already display learning dispositions which in some cases support optimum learning, for example where they display an orientation towards learning goals and a consequent tendency towards persisting and having a go. In other cases dispositions may serve as obstacles, for example where they display an orientation towards performance goals and a consequent tendency to avoid taking a risk or avoid getting it wrong (Smiley & Dweck, 1994). Specific dispositions, for example flexibility, positive affect and intrinsic motivation, can be developed and observed in social pretend play (Pellegrini, 1998).

Children play an active role in the development of their dispositions through participation and collaboration. 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 on-going activity'. Carr (2001) describes the process of assessing dispositions as one of assessing complex and elusive outcomes. Eagerness to partake in activities related to literacy indicates interest on the part of the child to become involved in the activity. Interest may be defined as 'children's enjoyment of and frequency of engagement in literacy-related activities' (Baroody & Dobbs-Oates, 2011, pp. 345-6). Recent attention to the topic of children's interests is based on the premise that children who show an interest in literacy activities are likely to engage in them more often than others who don't enjoy them or

who have no interest. Engagement offers children opportunities to learn and practise essential literacy-related skills. In the above study, parent-reported child interest was found to be positively related to children's positive behaviour in school. This is of interest for educators in settings where literacy-related reading behaviours play a large role in the curriculum. Here educators need to examine more carefully how the provision offered meets children's needs and how interest in literacy activities might be structured in order to ensure maximum participation from all children. The importance of parental reports in assessing children's interest in literacy should be considered a key piece of information for educators. Baroody and Dobbs-Oates (2011) point out that this research also shows how low interest in one area of development (literacy) may affect children's skills in another area (social). However, it is possible that child-interest in literacy may be related to styles of engagement between the adults and the child in the home. Leserman and van Tuijl's study (2006) of cultural diversity in early literacy sought to evaluate mothers' emotional support for children's development in shared-book reading and problem-solving situations. Emotional support (supportive presence, non-intrusiveness, clarity of instruction, and confidence in the child) and children's motivation (a combined measure of children's scores for persistence, task performance and sustained attention, expressed enthusiasm and expressed confidence based on successful contribution and received praise) were evaluated. The authors reported that differences in the quality of emotional support were related to SES and to culture, with middle-class indigenous mothers providing more support compared with that of lower-class and non-indigenous mothers (2006, p. 221). From this it seems that the affective quality of the mother-child relationship in shared-book reading influences children's interests in literacy activities and their subsequent behaviour in educational settings where these experiences are part of the provision offered. The implications of this are that

parents need support not just in relation to how to engage children in discussion about story-meaning, but also in relation to affective dimensions of their behaviour with children during such activities. Furthermore it suggests a key role for educators in exploring new ways of engaging all children but especially those who do not display an interest in literacy-related book reading.

Teachers of children who have moved out of the preschool years may wish to assess motivation to read and write. This can be done using both formal and informal tools. Formal tools include standardised questionnaires such as McKenna and Kear's (1990) *Elementary Reading Attitude Survey* which assesses overall motivation to read and motivation to engage in academic and recreational reading, and Gambrell et al.'s (1996) *Motivation to Read Profile*, which comprises a reading survey and a conversational survey. Informal approaches to assessing motivation will involve observing children's reading practices and interviewing them about their preferences.

Vocabulary and academic language

Vocabulary knowledge is a key indicator of later oral language development, as well as proficiency in reading (Beck, & McKeown, 2007). The size of an individual's word knowledge has been related to comprehension in primary grades (Scarborough, 2002; Storch & Whitehurst, 2002) and to fluency and comprehension at post-primary level (Cunningham & Stanovich, 1997). Further, children from disadvantaged backgrounds tend to have smaller vocabularies than their middle-class counterparts, even before they begin their schooling (Hart & Risley, 1995; Hoff, 2003). Hence, it is important to assess children's vocabulary knowledge from as early a stage as possible. This can be done informally as children engage in structured activities such as dialogic reading, or in more formal contexts involving the administration of standardised measures of receptive vocabulary. Information on vocabulary knowledge (which should be

recorded by the caregiver/teacher) can be obtained by:

- asking for a definition of a word (*What does ocean mean?*)

- asking about a characteristic of a word (*What would you find in the ocean?*)

- asking for the opposite of a word (*What is the opposite of tired?*)

- contrasting two words (*What is the difference between a pond and an ocean?*)

- asking for another word with the same meaning (*What word has the same meaning as tired?*)

- asking which word in a set is the odd word out (*e.g. apple, orange, chocolate, crisps, lemon*)

- asking the child to provide a super-ordinate label (*e.g. what do cow, horse and sheep have in common? Is a bear a farm animal?*).

Academic language is identified in this review as a particularly important aspect of early language to develop and therefore to assess. According to Snow and Oh (2011), the use of academic language in early childhood is characterised by particular features. These include knowledge of certain kinds of *high power* academic words (p. 379) for example super-ordinates (people, food); cognitive verbs (suggest, think, wish); epistemic markers (perhaps, maybe) and other words used to go beyond what is physically present. Other features of academic language identified by the above authors include the use of connectives (e.g. but, however); greater tense variety; higher lexical density and greater use of subordinate clauses. Snow and Oh (2011) observe that many of these features emerge in extended discourse such as narratives or explanations. This suggests that, as with vocabulary knowledge in general, early childhood educators can best

assess academic language use in highly interactive and dynamic contexts such as storybook discussion or informal conversations with young children.

As children progress in their reading, vocabulary will become more sophisticated, and word meanings can be discussed in the context of specific texts that children have read as a group or independently. Reading vocabulary can be assessed orally (using some of the prompts suggested above) or it can be assessed through writing (for example, by asking children to define words in writing, or use words in sentences).

Teachers can also formally assess children's reading vocabulary using a standardised reading test that includes a vocabulary subtest.

Alphabet knowledge, phonological awareness, phonemic awareness and phonics

This section looks at the aspects of alphabet knowledge, phonological awareness, phonemic awareness and phonics that should be assessed in the early years.

Alphabet knowledge

Knowledge of and familiarity with the visual shapes of the individual letters is an important prerequisite to learning to read (Adams, 1990). Children's ability to name letters strongly predicts their future reading achievement. For example, learning letter names often turns spontaneously into interest in letter sounds and in the spellings of words. This may be because some letters contain information about their sounds. Knowledge of letter names is also strongly associated with children's ability to remember the structure of written words and the tendency to treat words as ordered sequences of letters rather than holistic patterns. Lack of letter-name knowledge is associated with difficulty in learning letter sounds and word recognition. It has

also been argued that letter knowledge may help direct a child's attention to the components of words and the general idea that they can be represented as smaller units (Burgess, 2006). Manolitsis, Georgiou, Stephenson and Parrila (2009) found that letter knowledge in kindergarten predicted non-word decoding and reading fluency in grade 1 'better than any other measure including phonological sensitivity' (p. 478). Leppänen, Aunola, Niemi and Nurmi (2008) also showed that a combination of letter-name knowledge and phonemic awareness is a better predictor of reading skill in grade 1 than phonemic awareness on its own. However, ability to recite the alphabet is not sufficient on its own; children must be able to recognise each letter in isolation.

Phonological awareness

The term phonological awareness refers to 'the ability to detect and manipulate the sound segments of spoken words' (Pufpaff, 2009). It is also described as sensitivity to larger units of sound such as syllables, onsets and rimes (Cunningham et al.,1998). Stanovich (1992) also uses the term *phonological sensitivity* to describe phonological awareness. According to Lonigan (2006), phonological awareness is often seen as developing on a continuum, starting with sensitivity to large and concrete units of sounds (i.e. words, syllables) and progressing to sensitivity to small and abstract units of sounds (i.e. phonemes). This developmental progress is usually described as occurring along the dimension of linguistic complexity. First, assessment of sensitivity towards the larger unites in words is considered. Then, later on, assessment of one specific aspect of phonological awareness – phonemic awareness – is considered. In general, it is appropriate to assess most aspects of phonological awareness, though not phonemic awareness, in preschool children. More abstract phonemic awareness tasks can be presented to children in the 5-7 years age range and to older children who have reading difficulties.

The following tasks, whether administered informally, or as part of a battery of phonological awareness tasks, are suitable for assessing broad aspects of phonological awareness:

- Identifying rhyming words in songs and poems (e.g. *What word rhymes with jump? What do you notice about honey and money?*). It is useful to make a distinction between whether the child can hear rhyming words, or identify rhyming words when they are encountered during informal book reading.

- Segmenting sentences into words (e.g. *counting the number of words in a sentence*).

- Segmenting words into syllables and blending syllables into words (e.g. *What are the three syllables in windowsill? Let me hear you clap them while I say the syllables. What word do you get when you combine po-ta-to?*).

- Onset-rime blending and segmentation (*Which word do you get if you combine p-ick? What sound do you hear at the beginning of shop?*).

Early years educators may also observe young children reflecting on words and word parts as they engage in literacy-related activities. For example, children may observe that all of the words in Sing-a-Song-of Sixpence begin with /s/, or they may notice during book sharing that *brown* and *bear* begin with the same sound.

Phonemic awareness

Teachers can use a variety of formal and informal activities to assess phonemic awareness – or the ability of children to segment words into their constituent sounds – an important prerequisite for both word reading and spelling. In assessing phonemic awareness, it is important to note that there is a hierarchy of tasks that is broadly indicative of the sequence in which children master awareness (see table 6.1).

Table 6.1: Hierarchy of phonemic awareness tasks

Basic blending tasks	1	Blending onset-rime units into real words
	2	Blending phonemes (sounds) into real words
Segmenting tasks	3	Segmenting sounds – identifying initial/final phonemes
	4	Segmenting sounds – identifying all of the sounds in a word
Phoneme manipulation tasks	5	Deleting phonemes/letters
	6	Adding phonemes/letters
	7	Substituting phonemes/letters
Complex blending tasks	8	Blending phonemes into non-words

Source: Adapted from Schatschneider, Francis, Foorman, Fletcher & Mehta (1999).

As with phonological awareness more generally, most instruction and assessment of phonemic awareness will occur in the context of informal activities that are of limited duration. Enz and Morrow (2009) remind us that young children have limited attention spans and that we should engage preschool children in phonological tasks for just a few minutes at a time, perhaps three or four times a day.

A range of tests of phonemic awareness tests are reviewed in McKenna & Stahl (2009). These include: Hearing Sounds in Words (adapted from the Observation Survey, Clay, 1993) and the Tests of Phonemic Awareness (McKenna & Stahl, 2009, p.98). Another measure is the Comprehensive Test of Phonological Processing (CTOPP) (Torgesen & Rashotte, 1999). The diagnostic component of the *Drumcondra English Profiles* (Educational Research Centre, 2009) also includes a test of phonemic awareness. As noted above, both phonological awareness and phonemic awareness are 'constrained skills' (Paris, 2005) that are significant for a relatively short time during reading acquisition. Once children have adequate mastery, they can move on to tasks that involve actual reading of texts that are at an appropriate level of difficulty. It should be noted that, as the child develops as a reader, the more complex aspects of phonemic awareness will continue to develop. Hence, educators should not

expect full mastery of phonemic awareness before formal reading instruction begins.

Phonics knowledge

As young children move into more formal reading, teachers will begin to look at their ability to identify letter sounds. Initially, this can occur in informal contexts such as storybook reading (e.g. *What is the beginning sound in this word? What other word in this sentence has the same beginning sound? Which of these words have the same beginning sounds? What are the other sounds in this word?*).

Over time, teaching and assessment will become more formal. In general, the transition to more formal approaches will occur at around 5 or 6 years of age (i.e. after preschool), when the child has a sufficient level of phonemic awareness to benefit from phonics instruction.

The following are key aspects of phonics that can be assessed using printed text:

• knowledge of the sounds of letters and letter clusters

• ability to use analogies to identify unknown words (e.g. identify 'sat' if 'cat' is already known)

• ability to use the initial sound and context to identify a word

• ability to identify the initial and final sounds in a word

• ability to blend sounds into words

• ability to apply knowledge of letter patterns (e.g. long vowel sound in CVCe words)

• ability to self-check whether an attempt is meaningful.

Assessment of phonics knowledge can occur in both informal and formal contexts. Much information about phonics knowledge can be obtained by listening to children as they read texts. Running records (Clay, 2002) (records of the child's oral reading errors) based on text at the child's instructional level can be particularly useful in this regard. In assessing a child's oral reading, it is important to focus both on knowledge of specific phonic elements (i.e. whether a particular sound or generalisation is known) and whether the child has applied his/her knowledge correctly. It is also useful to interview the child about the particular strategies he or she used to identify an unknown word, and how well those strategies worked.

Teachers may also wish to administer more formal tests of phonics knowledge. These could include:

- Teacher-made tests designed to assess knowledge of letter-sound correspondences.

- Formal tests designed to assess knowledge of letter-sound correspondences.

- Nonsense word tests (these provide evidence of knowledge of letter-sound correspondences as well as ability to blend sounds into words, without the influence of text context).

- Tests of word reading (although not all words in English can be read by applying knowledge of letter-sound correspondences, educators can make inferences about children's phonics knowledge by observing their efforts to identify unknown real words in isolation).

Drawing on information about children's knowledge of phonics, and their ability to apply phonics knowledge and other strategies to identify unknown words, teachers can develop individual or small-group activities designed to build on existing strengths, and specific

areas of greatest need. Children's performance on these activities should also be recorded and maintained as assessment evidence.

Reading fluency

There are a number of approaches to assessing fluency in classroom contexts. Some are stand-alone approaches such as a rating scale for assessing prosody or counting the number of words read correctly per minute. Others are components of broader approaches to assessment (e.g. running records).

Prosody

Assessment of prosody (expression) is usually conducted using qualitative rubrics or rating scales (e.g. Miller & Schwanenflugel, 2006). The rater listens to a text being read aloud for as little as 60 seconds, and then assigns the score that most closely aligns with the prosodic characteristics of the oral reading. Using this approach with fourth-grade students in the US National Assessment of Educational Progress, Pinnell et al. (1995) and Daane et al. (2005) found that ratings of oral reading performance were strongly related to their silent reading comprehension.

The Multidimensional Fluency Scale (Zutell & Rasinski, 1991) is shown in Appendix A. It provides a summative score (between 4 and 16) for multiple dimensions of prosodic reading. The individual dimensions provide formative information that can be used to guide instruction. According to Zutell and Rasinski, a score below 8 indicates that fluency may be a concern. A score of 8 or above indicates that the child is making good progress in fluency.

Teachers wishing to implement a more detailed analysis of children's prosody may use a scale such as Zutell and Rasinski's (1991) Multidimensional Fluency Scale (see Appendix A). The scale assessed four aspects of fluency:

- expression and fluency

- phrasing

- smoothness

- pace or reading rate.

The NAEP scale for Grade 4 is shown in table 6.2. It is recommended that two persons apply the scale to a sample of a child's reading and reach agreement on the child's score.

Table 6.2: The NAEP oral reading fluency scale (grade 4)

Fluent	Level 4	Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation.
	Level 3	Reads primarily in three- or four-word phrase groups. Some small groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.
Nonfluent	Level 2	Reads primarily in two-word phrases with some three- or four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to larger context of sentence or passage.
	Level 1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur—but these are infrequent and/or they do not preserve meaningful syntax.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Centre for Education Statistics, National Assessment of Educational Progress (NAEP), 2002 Oral Reading Study.

Rate (words per minute (WPM))

Another approach to assessing fluency is to count the number of words a child reads correctly per minute, based on one or more texts appropriate to his/her class level. The following formula generates a words–per–minute rate:

(% accuracy X number of words X 60)/reading time in seconds
(where percent accuracy is the percentage of words read accurately
in the text)

A chart (see Appendix B) showing performance at differing percentile
ranks for children in US schools (Hasbrouck & Tindal, 2006) shows
that considerable growth in reading rate is achieved over grades 1 and
2 (first and second classes). According to Hasbrouck and Tindal,
children scoring 10 or more words below the 50th percentile (for
their grade level) using the average score of two unpractised readings
from grade-level materials may need a fluency-building programme.
Similar norms might be of use to Irish teachers.

It is important to report which grade or guided reading level the
passage was at (a child might have 95% accuracy on a passage at a
second grade level, but 75% accuracy at a third grade level).

Comprehension

Early childhood educators will need to support children's development
of comprehension skills, and will need to assess their progress in
understanding texts. In the preschool period, most of this work will be
orally-based, as children listen to songs, stories and poems, or share
picture books in informal contexts. As children move into more
formal reading in the infants' classes and beyond, teachers will need to

- continue to read aloud to them, using a range of text types, and
  assess their understanding of what has been read (and listened to)

- begin to teach reading comprehension strategies that can be
  applied to written texts and assess understanding of those strategies
  as well as ability to apply them in a range of contexts.

According to Enz and Morrow (2009), the following comprehension
skills should be taught and assessed in preschool:

- Attempts to read storybooks resulting in well-formed stories.

- Participates in story reading by narrating as the teacher reads.

- Retells stories and includes the following elements: (a) setting; (b) theme; (c) plot episodes; and (d) resolution.

- Responds to text after listening with literal comments or questions.

- Summarises what is read.

- Responds to text after listening with interpretative comments or questions.

- Responds to text after listening, with critical comments or questions.

- Generates questions that are literal, inferential and critical.

- Participates in social activities to enhance comprehension (e.g. partner reading, visual imagery, discussion, tape-assisted reading).

- Recognises and understands features of expository text (e.g. table of contents, glossary, index, charts, descriptive text, text demonstrating sequence of events, text with a problem that is solved).

As children move into more formal reading, teachers will provide instruction in the use of reading strategies (see Chapters 4 and 7). These will overlap to some extent with those taught and assessed in preschool. They include:

- activation and connection with relevant prior knowledge sources

- generating and answering both teacher and self-generated questions

- monitoring, clarifying and using fix-up strategies

- visualising and creating mental imagery

- inferencing

- use of graphic organisers

- summarisation.

These strategies may be taught and applied on a strategy-by-strategy basis or as part of a multiple strategy model such as reciprocal teaching or transactional strategy instruction (see Chapter 4).

There are several ways in which children's use of reading comprehension strategies can be assessed. Some aspects of strategy usage that can be assessed are:

- Before children read a text–e.g. activation of background knowledge, prediction of text content.

- During reading–e.g. revision of predictions, self-questioning, inferencing, creating a mental image of the text; providing an initial response to what the writer has said.

- After reading–e.g. cognitive response (summarising, identifying text structure, answering questions at different levels of complexity (literal, inferential, evaluative/critical; convergent vs. divergent); identifying a theme or moral); affective response (e.g. emotional/imaginative response to character actions and traits, empathy towards characters).

Literal comprehension questions require the child to recall a specific fact that has been explicitly stated – the answer is 'right there' in the text. Inferential questions suggest the reader has to 'think and search' or even to 'read between the lines' in order to find the answer.

Evaluative/critical questions ask the reader to make a judgement. Often there is no single right answer. Using levels of questioning to assess comprehension during class discussions offers teachers an opportunity to see how well the child has understood a reading selection.

Teachers can also glean assessment information in the course of guiding children through the application of a single reading comprehension strategy (visualising the ideas in a text, asking questions) or multiple strategies (e.g. reciprocal teaching, transactional strategy instruction). In particular, it is important to assess children's knowledge at the following levels:

- declarative – name and describe the strategy

- procedural – explain and apply the steps in the strategy

- conditional – state when and why the strategy should be used.

When applying the gradual release of responsibility model, teachers will need to ascertain children's knowledge levels at the guided practice phase, to determine if the children are ready to work independently or if they need further teaching.

In implementing informal assessment of this nature, it is important to ensure that children are engaging with texts at an appropriate level of difficulty (their instructional levels) and that the outcomes of the assessments are recorded using one or more of the strategies outlined in the next section (e.g. anecdotal notes, checklists) so that the information is at hand at a later time.

Teachers wishing to use a more formal approach to assessing children's knowledge and use of strategies may wish to adopt a framework such as the Major Point Interview for Readers (MPIR) (Keene & Zimmermann, 1997). There are two components to this framework:

- A strategy-use interview, where the teacher asks children about their use of strategies such as drawing on prior knowledge, making inferences (including prediction), asking questions, and determining what is important in the text.

- A think-aloud protocol that assesses children's use of comprehension monitoring/fix-up strategies, use of visualisation strategies and strategies for identifying important information and summarising text.

The framework includes scoring rubrics corresponding to each strategy. These can be used to rate children's understanding of the strategies. Table 6.3 provides one of the rubrics used to visualise text.

From first class onwards, most children can also be assessed on standardised tests of reading comprehension. The interpretation of scores on these tests is discussed in a later section of this chapter.

Table 6.3: Rubric for rating children's use of visualisation strategy

Score	Description
5	Elaborates multi-sensory images to enhance comprehension; can articulate how the processes enhance comprehension.
4	Creates and describes multi-sensory images that extend and enrich texts.
3	Describes own mental images, usually visual; images are somewhat elaborated from the literal text or existing picture.
2	Describes own visual or other sensory images; may be tied directly to text or to a description of the picture in the text.
1	No response

Source: Keene & Zimmermann (1997).

Spelling

As noted in Chapters 3 and 4, there are several prerequisites for spelling that early childhood educators need to check from preschool onwards. Many of these prerequisites are shared with reading. Hence, they can be assessed using informal approaches that are also used to assess emergent concepts about reading. They include:

- knowledge of the alphabetic principle – the insight that, for many English words, spelling is primarily left-to-right, a linear matching of sounds and spelling

- knowledge of the alphabet – knowledge of letter names

- phonological awareness and phonemic awareness – the abilities to reflect on and manipulate the syllables and sounds in words, including the identification of rhyming words and word patterns

- knowledge about letter patterns including phonic generalisations (e.g. CVCe).

From the earliest stages of picture writing in preschool, educators should begin to form hypotheses about children's stages of spelling development. As noted in Chapter 3, the pre-communicative stage of spelling development (Gentry, 1982, 2000) can extend from 1-7 years of age, while the pre-phonetic stage can extend from 4-7 years. Teachers who collect and annotate samples of children's writing, perhaps in conjunction with maintaining writing portfolios, will have a ready-made source of information on children's spelling. In addition to identifying the stage at which a child mainly functions (and hence, what needs to be done to reach the next stage), teachers will be able to pinpoint specific spelling errors and formulate instructional plans for individuals and small groups based on those errors.

As children engage in proofreading during writing, teachers can ascertain sensitivity to errors, and strategies for self-correction. For example, teachers may identify an over-reliance on phonic strategies for spelling words, and decide to focus instruction on helping children to use a range of strategies (visual/orthographic and structural). Teachers also need to observe children's approaches to spelling new or unknown words.

Occasionally, teachers will administer a standardised test of spelling (normally from first class onwards) to obtain an indication of a child's standing relative to other children nationally at the same class level. The outcomes of such a test, combined with other information on the child's spelling development, can be used for programme planning.

Writing

It was noted in Chapter 3 that children's writing emerges from their early drawing as they seek to express meaning and understanding. This can be viewed as an early stage in a journey that sees them engage in considerable experimentation with writing forms as they move towards conventional and proficient writing. Assessment in writing should focus on two broad aspects: (a) the process of writing; and (b) the product. It is important that children in preschool and in the early school years engage in composing their own texts rather than copying material or completing workbook exercises (Clay, 1975; Avery, 2002).

The process of writing can be assessed informally, by observing children as they engage in the different stages of the writing process (e.g. planning, drafting, reviewing, evaluating). Much information about how children engage in writing can be gleaned through writing conferences (see next section) and, again, outcomes should be documented and reviewed when planning instruction. Teachers wishing to assess writing in greater depth may wish to use a framework such as the 6 + 1 traits of writing model (Culham, 2003). The first five traits deal with revision and the last two deal with editing. The traits are:

1. Ideas – the meaning and development of the message, or what it is trying to say.

2. Organisation – the structure of the piece; how the paragraphs are organised; how the paragraphs flow from one to the next.

3. Voice – the way the writer brings the topic to life, depending on the intended audience.

4. Word choice – the specific vocabulary the writer uses to convey tone and meaning.

5. Sentence fluency – the way words and phrases flow throughout the text.

6. Conventions – the mechanical correctness of the piece, including grammar, spelling, punctuation and capitalisation.

+1 Presentation – the overall appearance of the work.

Culham also provides scoring rubrics for each of the traits in her framework. Each rubric comprises four to seven indicators. Scores are assigned on a five point scale: 1 = experimenting; 2 = emerging; 3 = developing; 4 = capable; and 5 = experienced. Table 6.4 shows the indicators for word choice.

Table 6.4: Scoring rubric for word choice

Level	Criteria / indicators
5 – Experienced	• Everyday words used well • Precise, accurate, fresh, original words • Creates vivid images in a natural way • Avoids repetition, clichés or vague languages • Attempts at figurative language
4 – Capable	• Uses favourite words • Experiments with new and different words with some success • Tries to choose words for specificity • Attempts to use descriptive words to create images
3 – Developing	• General or ordinary words • Attempts new words but they don't always fit • Settles for the word or phrase that 'will do' • Big words used only to impress reader • Relies on slang, clichés or repetition

Level	Criteria / indicators
2 – Emerging	• Recognizable words
	• Environmental words used correctly
	• Attempts at phrases
	• Functional language
1 – Experimenting	• Writes letters in strings
	• Imitates word patterns
	• Pictures stand for words and phrases
	• Copies environmental print

Source: Culham (1997).

In addition to locating the level at which a child is mainly operating, users can check if any further work is required on any of the indicators at the child's current level, or, alternatively, plan work around achievement of indicators at the next highest level. A child can function at a different level on each of the criteria assessed.

Children's writing products can be assessed without direct reference to process. A useful scale for assessing the writing of young children is the Criterion Writing Scale (Wilson, 2002). This scale was developed in the United Kingdom in line with the curriculum requirements for the key stages of the national curriculum with the specific aim of raising standards in writing. It is divided into five levels ranging from below level one to level five. Four distinct strands of writing development are measured in the scale: (a) the mechanics of writing (grammar, spelling, punctuation, handwriting); (b) skills associated with the development of the writing voice (quality of expression, creativity, originality); (c) the ability to respond accurately to an age appropriate stimulus for writing; and (d) the ability to use and apply the characteristics of a range of genres. Although quite analytic, the criteria underpinning the scale can provide valuable diagnostic information. (See table 6.5.)

Table 6.5: Summary of criterion scale

Total number of criteria	Sub-levels	Criteria for each sub-level	Pre-requisites (Essential in order to assess for the next level)
Working toward level 1 (26)	W1	No sub-levels in W1	
Level 1 (9)	1C	Criterion 9 + any 4 others (total 5)	Can spell some common mono-syllabic words accurately. Gist of writing is decodable without help from the child. Criterion 9 required.
	1B	Criterion 9 + any 5/6 others (total 6/7)	
	1A	Criterion 9 + any 7/8 others (total 8/9)	
Level 2 (22)	2C	8-12	Can use simple words and phrases to communicate meaning. Majority of work decodable without help from the child.
	2B	13-17	
	2A	18-22 (assess for level 3)	
Level 3 (19)	3C	7-10	Can spell common mono-syllabic words accurately and use phonetically plausible strategies to attempt unknown polysyllabic words. Can vary sentence structure. Can sustain form to around 100 or more words.
	3B	11-15	
	3A	16-19 (assess for level 4)	
Level 4 (17)	4C	6-8	Can use correct grammatical structures. Can structure and punctuate sentences correctly (. , ?) Can use a range of connectives. Can spell mono-syllabic words and common polysyllabic words correctly.
	4B	9-12	
	4A	13-17 (assess for level 5)	
Level 5 (22)	5C	9-12	Can use nouns, pronouns and tenses correctly. Can use a range of sentence punctuation accurately (, . ? ' " "). Can use ambitious vocabulary. Can vary sentence structure.
	5B	13-17	
	5A	18-22	

Adapted from Wilson (2002).

RANGE OF ASSESSMENT TOOLS SUITABLE FOR ASSESSING EARLY LITERACY LEARNING

The range of tools that can be used to assess children's early literacy learning include observing and empathising; communicating; interviewing; documenting and reflecting on learning; compiling portfolios; and developing narratives about learning. A short account of each of these follows below. For a more detailed account see Dunphy (2008; 2010).

Formative tools for assessing early literacy

Observation has long been recognised as key to uncovering children's learning, the meaning of their actions, their mark-making and their words. Pioneers in early childhood education such as Isaacs (1930) used their observations to develop their understandings of early learning and their work in turn inspired many others. Isaacs wrote narrative accounts, and this approach continues to be developed and refined in the modern context.

Narrative or story approaches have been used by educationalists both to understand aspects of teaching and learning and to communicate this to others. Narrative accounts of learning 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 (Bruner, 1999b). In New Zealand, Carr (2001) and her colleagues developed the 'learning stories' approach to documenting children's learning. Learning stories are:

> *structured observations, often quite short, that take a 'narrative' or story approach. They keep the assessment anchored in the situation or action.* (Carr, 2001, p. 32)

However, such an approach is not without its challenges. Documenting learning stories is demanding, as is making sense of the information and deciding on its implications for planning further learning experiences (Carr, 2001).

Day-to-day *conversations* provide rich contexts for assessments of learning. Educators listen carefully in order to understand what the child is seeking to communicate, either through gesture, behaviour or language (MacNaughton & Williams, 2004). Research indicates that for preschool children, non-verbal signs are crucial for communication. For instance, it appears that three-year old children co-construct meaning with adults 'not only through words but also through gaze, facial expression, and body movements' (Flewitt, 2005, p. 220). For example, gestures such as imitating actions, intentionally using gaze, touching and pointing have been identified as key modes of expressing and communicating. These often accompany talk and supplement children's linguistic resources and abilities.

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 & Ring, 2004, p. 5). In the context of early mathematics, Worthington and Carruthers (2003) argue that *mark-making* should always be considered to be intentional and the analysis of these can convey a great deal about children's emerging understandings of many aspects of their world. This view can by implication be extended to the area of early literacy.

However, there are also occasions when educators need to ascertain information about learning which is not evident from the child's performance in everyday activity. *Interviewing children* is more formal than everyday conversation but is a process that can be both flexible and responsive. It is especially of interest when traditional methods of enquiry such as observation are inadequate to uncover children's thinking. The flexibility of the method means that the interviewer is free to respond by altering aspects of the task or the question as fitting. One of the strengths of the method is that it can be used to assess both cognitive and affective aspects of children's understandings, including dispositions (Dunphy, 2006).

In recent years documentation practices in early childhood education have been greatly advanced by educators in Reggio Emilia in Italy (Edwards, Gandini & Forman, 1998). Rinaldi (1998) suggests that their approach to documentation offers the educator the unique opportunity to listen again to young children and reflect on the learning processes as revealed by children. The 'mosaic approach' to listening to children uses a variety of tools to enable children to convey their ideas and feelings in a range of symbolic ways, for example through photographs and drawings. The approach is 'a way of listening that acknowledges children and adults as co-constructors of meaning' (Clark & Moss, 2001, p. 3).

Portfolios are purposeful collections of evidence of early learning and of children's progress in relation to the learning goals of the curriculum. They offer a practical approach to assembling and organising the range of information on children's learning (Puckett & Black, 2000). Digital technologies are a useful way of collecting and presenting a great deal of information about a child's early learning in a succinct form (Boardman, 2007). Material 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 reflection, either by the educator alone or with colleagues and it can be the focus for planning activities based on what is known about the child. 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.

In summary, the assessment processes outlined here need to be engaged in concurrently and they are best undertaken where children are engaged in authentic literacy contexts such as those identified in this review. These include informal discussions, socio-dramatic (make-believe) play and dialogic storytelling.

Additional tools that can be used with school-age children are now described.

Running records

Running records were originally used as a daily assessment procedure in Reading Recovery lessons (Clay, 2002). The child is asked to read aloud and the teacher uses a coding system to record the child's reading of the text. The procedure enables the teacher to get a 'snapshot' of the reader as she/he engages with the reading process. Errors are recorded according to the child's use of semantic, syntactic and visual (graphophonic) cueing systems. Errors commonly recorded include the following: *omissions, insertions, substitutions, reversals, repetitions, hesitations, self corrections, and teacher supplied words.* Conventional practice recommends that teachers use consistent symbols to record miscues.

Miscue analysis

This is an observation-based procedure, and involves the teacher recording and evaluating the 'errors' a child makes while reading aloud. The teacher analyses how the child is using different cueing systems (graphophonic, syntactic and semantic) and strategies (initiating, predicting and confirming) as they read aloud a text (Goodman, 1977; Clay, 2000). The underlying assumption is that the miscues the reader makes give insights into the range of strategies
s/he uses and the efficiency of these strategies. When an error is made, the teacher records M (meaning cues) S (structure cues) or V (visual cues). This type of reading assessment provides information on the child's ongoing awareness of the reading process,

Oral retelling

Following each oral reading passage, the child retells the passage in his/ her own words, without the prompting provided by questions. The child is expected to demonstrate his/her comprehension of the passage

(e.g. paragraph). The teacher gets a sense of the child's understanding of the structure and content of the text. Oral retellings allow observation of the child's thought processes as s/he demonstrates what s/he thinks is important, and any cultural influences on the interpretation. Retelling can be cognitively demanding for the child and the teacher may need to prompt the child to retell as if telling the story to a classmate. For some children, questioning by the teacher to supplement the retelling will be necessary in order to ensure a comprehensive measure of the child's text comprehension.

Comprehension questions

Three levels of questions are relevant for assessing comprehension – literal questions, inferential questions and critical comprehension questions. These can be used following the child's oral or silent reading of a text. Determining how well a child can answer questions that demand application, synthesis and evaluation of information is crucial in terms of assessment for learning information or diagnostic assessment (Afflerbach, Cho & Kim, 2011). Other forms of assessment of reading comprehension such as reciprocal teaching (Palinscar & Brown, 1984) and child-generated questions are discussed in more detail in Chapter 4.

Cloze assessment

Cloze testing involves deleting words from a selected text sample and asking children to replace them on the basis of the remaining context. This is an informal tool for assessing reading comprehension. An excerpt of approximately 300 words from a storybook, text book or information book is chosen. The teacher deletes every fifth/sixth word in the passage and the task for the reader is to reconstruct the text, justifying and making sense of the passage. This approach expands the idea of comprehension so that the reader is interpreting the text and not just answering questions about it (Hall, 2001). Cloze testing can be

administered in a group setting, does not require comprehension questions and has been used successfully with EAL learners. Examples and guidelines for using cloze assessment are readily available (e.g. McKenna & Stahl, 2009).

Reading conferences and writing conferences

A conference is a short conversation between a teacher and an individual child about the child's attitudes, knowledge strategies and skills as a reader or a writer. The literature suggests that a reading conference is any interaction between teacher and children, or any assessment conversation about texts. Conferring with children as they participate in reading and writing activities is an integral component of workshop approaches to literacy. Child-selected independent reading is a key component of a balanced literacy programme, and children keep a log of their independent reading and use this when they come to discuss their reading with the teacher. Conferences may be one to one, small group or 'roving' as the children are given an opportunity to discuss their reading or writing. A good conference shows the child speaking for 80% of the time, the teacher 20% (Graves, 1994).

Writing portfolios

A portfolio is a place where the child's selected work is kept. There are many different forms such as a simple individual folder of work including lists of books read and discussed, written responses to literature, drafts of written work and final pieces of work. Graves suggests that children use two portfolios – a folder containing all their writing from the beginning of the school year and a portfolio containing work they have carefully selected from their folder. It is recommended that all children keep portfolios; they choose what goes into the portfolio; each must justify each time they make a selection; children receive responses to their portfolio collection from their

teacher and their peers (Graves, 1994). Creating and managing a portfolio takes time. Children can take responsibility for their own record keeping by keeping a portfolio that contains a variety of items so that it shows their growth in literacy over time.

Observational records/anecdotal records

Classroom observations or 'kid watching' (Owocki & Goodman, 2002) is useful in monitoring progress and identifying individual needs. Notes are kept by the teacher when children are working on various literacy tasks e.g. independent (silent) reading, writing tasks (independent/collaborative) or responding to and discussing stories. Checklists can help this recording process to determine which skills and strategies need to be addressed (Hall 2001). Regular observations across a range of contexts help to build a profile of the child as a reader and as a writer.

Formal methods of assessing early literacy

Standardised tests

Norm–referenced standardised tests constitute an important element of most programmes for assessing reading literacy. They can provide summative information on the performance of individual children and groups of children in important aspects of reading literacy such as word recognition, vocabulary knowledge, sentence comprehension and passage comprehension. In general, they provide reliable information about performance and are good predictors of later performance.

But standardised tests are not without problems. For example, if a child receives a low score on a standardised measure of reading comprehension, the score may arise from one or more of the following:

• atypical performance on the day of the test

- inability to read the words in the text (e.g. poor phonological processes, phonics, and word reading strategies)

- lack of background knowledge in relation to the texts presented

- insufficient vocabulary knowledge

- difficulties with reading comprehension (e.g. poor reading comprehension skills)

- general or specific learning difficulties relevant to reading literacy (e.g. attention, memory, reasoning, problem-solving)

- low levels of motivation to read

- low levels of engagement in reading (e.g. limited independent reading).

Low scores (for example, those at the 20th percentile or lower) should be followed up, as needed, with other assessments, including diagnostic tests, and measures based on teacher judgements. Classroom assessments, administered over several weeks or months, can provide more accurate information on the specific factors that impede a child's performance.

Where a child achieves a low score on a standardised test, but generally performs well on classroom-based reading tasks, it is important to reflect on the reasons why the child performed poorly in the more formal assessment situation. Poor performance in these circumstances may arise from lack of familiarity with standardised measures of reading, or, in the case of very young children, lack of opportunity to work independently on test-like tasks.

Research carried out in Ireland (e.g. Eivers et al., 2010) and elsewhere tells us that the following groups tend not to achieve high average scores on standardised tests of reading literacy:

- children in schools with low average socioeconomic status

- children who speak a language other than the language of instruction (English or Irish in the Irish context)

- children of minority communities (e.g. the Traveller community in Ireland)

- children who were not read to at home

- children with few books in their homes (suggesting low levels of support for literacy learning at home)

- children of parents with low levels of education

- children with low levels of educational resources (e.g. a quiet place to study)

- boys, low-SES boys being especially at-risk.

It is likely that risk factors such as low levels of support for literacy at home or low levels of parental education manifest themselves in poor vocabulary, lack of familiarity with the syntax of book language, low levels of the background knowledge required to understand texts, lack of familiarity with text structures, and insufficient experience with higher-level reading comprehension skills. As noted earlier, low levels of oral language can also contribute to poor performance on comprehension-based reading tasks. Where large groups of children perform below their potential on standardised measures of reading achievement, it may be necessary to implement programmes designed to raise performance (e.g. Kennedy & Shiel, 2010), as well as address difficulties experienced by individual children.

It is important to view standardised tests as just one element of a broad assessment programme, whether at school or classroom level. There is a risk that, if standardised tests are over-emphasised, a school

or classroom reading literacy programme may become unbalanced, as the focus shifts from enhancing children's learning to raising their test scores. This may have the consequence of increasing performance on a specific standardised test, without necessarily raising reading proficiency levels, or performance in related areas such as response to reading or writing.

TOWARDS A FRAMEWORK FOR ASSESSMENT

As noted above, schools and teachers can draw on a broad range of tools to assess aspects of reading literacy and writing. However, in addition to using tools such as standardised tests, narrative descriptions, portfolios or scoring rubrics to identify children's strengths and learning needs, there may be value in anchoring assessment activities in an over-arching framework that covers the different aspects of reading literacy. Such a framework could also be used as a basis for summarising the performance of children on a range of classroom-based literacy assessments.

In this section, we consider what frameworks for assessing reading and writing might look like. Then we consider some currently available tools for summarising assessment outcomes across different aspects of reading literacy and writing in order to generate summative measures of performance in these areas.

Figure 6.1 depicts reading literacy in terms of three broad components: reader–author relationships, reading uses (processes) and the content and structure of reading texts. The author–reader relationship encompasses the author's purpose in writing a text (e.g. for literacy experience or to provide information), the reader's purpose in reading the same text (e.g. to be entertained, to learn, to pass a test), and strategies used by the author to convey meaning (e.g. the style of the text, the author's point of view).

Reading processes comprise the comprehension processes that children engage in as they read a text, or discuss a text they have read – they set goals for reading, activate prior knowledge sources, make personal or inter-textual connections, attend to text structure, ask questions of the text, make inferences, retrieve information, critically evaluate what they've read, predict, narrate, explain, determine importance and summarise. Reading processes also include metacognitive processes such as checking one's understanding with reference to the purpose of reading and implementing fix-up strategies when comprehension breaks down.

The content of reading literacy comprises the vocabulary in the text (with which the reader may or may not be familiar) and the prior knowledge assumed by the text. The structural aspects of reading content include the structure of words (grammar, morphology), sentences and longer texts including narratives, persuasive texts, expository texts and digital texts among others. Engagement in reading and dispositions or attitudes towards reading are also part of the framework. Each aspect of reading needs to be considered individually, and in terms of how it operates as part of the overall system.

Since reading and writing are reciprocal processes (see Chapter 7), the components of writing can be described in a similar manner to those of reading. Figure 6.2 depicts the over-arching components as reader–author relationships, writing processes and purposes, and (again) content and structure. Reader–author relationships encompass the intentions of writer (e.g. the purposes for which the author wrote a particular text) and those of the reader (why they choose to read the text). They include strategies used by the writer to support the reader (e.g. summarising information at the end of a text to make it more readable), the style and theme of the text (as fashioned by the writer) and the reader's response to the text. Writing uses encompass

both writing processes (planning, composing, editing etc.) and writing purposes such as describing, recalling and narrating). Many, if not all, of the content and structural elements of reading and writing are similar, though, in the case of writing, reference is made to spelling rather than word reading. Again, engagement in writing and dispositions towards writing are highlighted as being important.

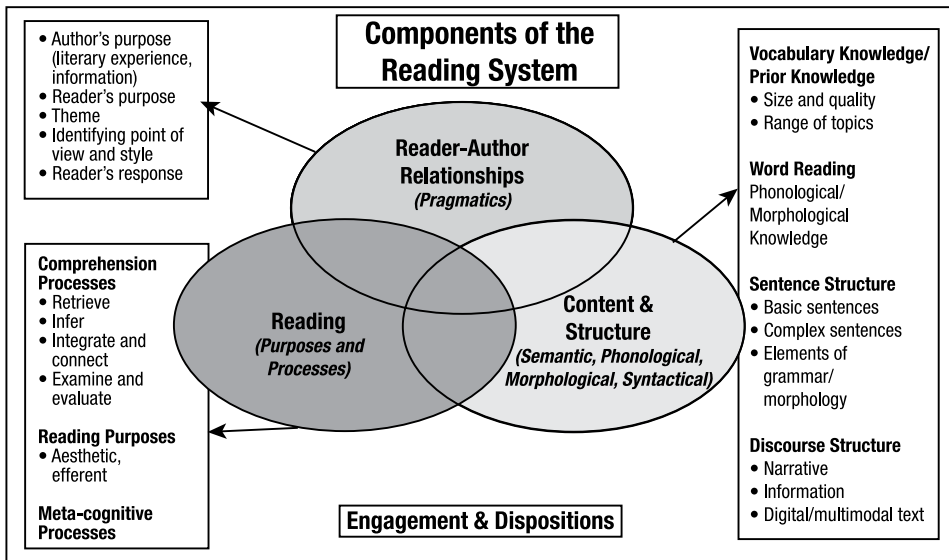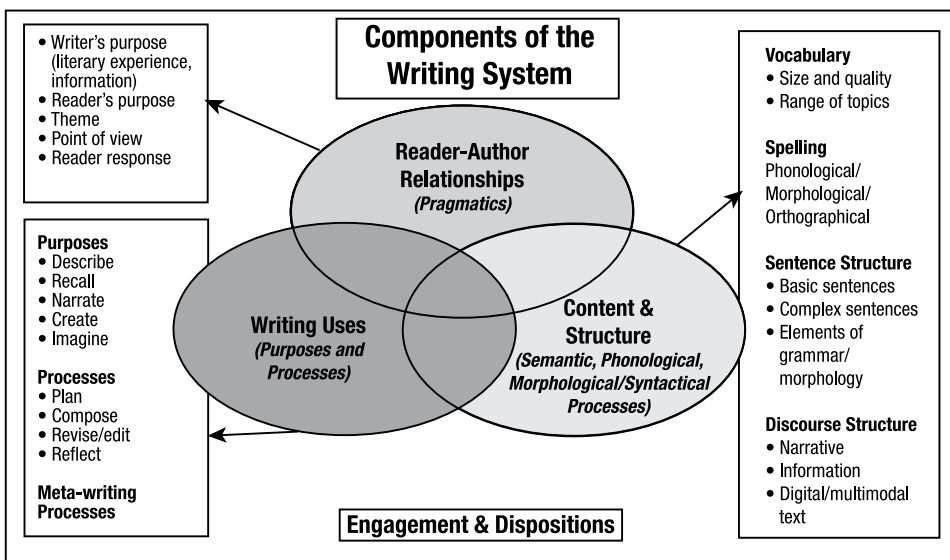**Figure 6.1: Components of the reading system**

Components of the Reading System

- Author's purpose (literary experience, information)
- Reader's purpose
- Theme
- Identifying point of view and style
- Reader's response

Comprehension Processes
- Retrieve
- Infer
- Integrate and connect
- Examine and evaluate

Reading Purposes
- Aesthetic, efferent

Meta-cognitive Processes

Reader-Author Relationships *(Pragmatics)*

Reading *(Purposes and Processes)*

Content & Structure *(Semantic, Phonological, Morphological, Syntactical)*

Vocabulary Knowledge/ Prior Knowledge
- Size and quality
- Range of topics

Word Reading
Phonological/ Morphological Knowledge

Sentence Structure
- Basic sentences
- Complex sentences
- Elements of grammar/ morphology

Discourse Structure
- Narrative
- Information
- Digital/multimodal text

Engagement & Dispositions

Figure 6.2: Components of the writing system

Components of the Writing System

- Writer's purpose (literary experience, information)
- Reader's purpose
- Theme
- Point of view
- Reader response

Purposes
- Describe
- Recall
- Narrate
- Create
- Imagine

Processes
- Plan
- Compose
- Revise/edit
- Reflect

Meta-writing Processes

Reader-Author Relationships *(Pragmatics)*

Writing Uses *(Purposes and Processes)*

Content & Structure *(Semantic, Phonological, Morphological/Syntactical Processes)*

Vocabulary
- Size and quality
- Range of topics

Spelling
Phonological/ Morphological/ Orthographical

Sentence Structure
- Basic sentences
- Complex sentences
- Elements of grammar/ morphology

Discourse Structure
- Narrative
- Information
- Digital/multimodal text

Engagement & Dispositions

Frameworks for assessing reading and writing can include content standards, performance standards or both. Content standards indicate what children should know and should be able to do. For example, children should be able to write and speak for a variety of purposes and for diverse audiences, using conventional grammar, usage, sentence structure, punctuation, and spelling. A performance standard measures how well a student's work meets the content standard. A performance standard may have levels (4, 3, 2, and 1; or advanced, proficient, novice, and basic) and examples of student work may be provided for each level. In this respect, performance standards are similar to scoring rubrics.

Three systems for recording children's performance in reading literacy are considered here: The (US) Common Core Standards, the Drumcondra English Profiles, and (UK) National Curriculum Assessment. Each approach represents a different perspective on summarising information about a child's literacy performance that is based on classroom assessments.

The Common Core State Standards (Reading) arise from a state-led effort in the United States, coordinated by the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers. The standards are intended to 'provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers' (http://www.corestandards.org). There are three sets of standards for reading (foundational skills, literature, informational texts), and two related to writing and language (usage). Separate sets of standards have been established for kindergarten (equivalent to senior infants in Ireland) and grades 1-3. The standards for reading – literature in kindergarten are outlined in table 6.6.

Although the Common Core State Standards do not include specific standards for preschool children (3-5 years in Ireland), several states that have adopted the Common Core State Standards (including New York) have appended preschool standards to them (see table 6.7). Both the common core standards and the related preschool standards provide a useful structure for designing and reporting on classroom-based assessments. They could form the basis of a comprehensive checklist of early literacy skills, or they could be used in the development of curriculum profiles or statements of proficiency at each of several grade levels.

Table 6.6: Common Core State Standards for reading – literature, kindergarten

Key Ideas and Details	• RL.K.1. With prompting and support, ask and answer questions about key details in a text. • RL.K.2. With prompting and support, retell familiar stories, including key details. • RL.K.3. With prompting and support, identify characters, settings, and major events in a story.
Craft and Structure	• RL.K.4. Ask and answer questions about unknown words in a text. • RL.K.5. Recognize common types of texts (e.g., storybooks, poems). • RL.K.6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.
Integration of Knowledge and Ideas	• RL.K.7. With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts). • RL.K.8. (Not applicable to literature) • RL.K.9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.
Range of Reading and Level of Text Complexity	• RL.K.10. Actively engage in group reading activities with purpose and understanding.

Source: Common Core State Standards http://www.corestandards.org/

Table 6.7: New York Common Core Standards for reading – information texts, pre-kindergarten

Key Ideas and Details	1.	With prompting and support, ask and answer questions about details in a text
	2.	With prompting and support, retell detail(s) in a text
	3.	With prompting and support, describe the connections between two events or pieces of information in a text
Craft and Structure	4.	Exhibit curiosity and interest in learning new vocabulary (e.g., questions about unfamiliar vocabulary)
	5.	Identify the front cover, back cover; displays correct orientation of book, page turning skills
	6.	With prompting and support, can describe the role of an author and illustrator
Integration of Knowledge and Ideas	7.	With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing or idea in the text an illustration depicts)
	8.	Not applicable to kindergarteners
	9.	With prompting and support, identify basic similarities and differences between two texts on the same topic (illustrations, descriptions or procedures)
Range of Reading and Level of Text Complexity	10.	With prompting and support, actively engage in group reading activities with purpose and understanding.

Source: http://static.nylearns.org/content/documents/p12common_core_learning_standards_ela_final.pdf

Another approach to literacy assessment is embodied in the *Drumcondra English Profiles* (Shiel & Murphy, 2000). The profiles were devised to support teachers in assessing their children in the Primary School English Curriculum. They comprised sets of indicators (outcomes) for oral language, reading and writing at each of eight grade levels (junior infants to sixth class). The following definition underpinned the development of the profiles:

> *Curriculum profiles contribute to the development of comprehensive and continuous records of pupil achievement across the curriculum. They are based on the judgements made by teachers about a pupil's achievement in the context of ongoing classroom teaching and assessment activities. Within schools, curriculum profiles provide teachers, parents and pupils*

*with meaningful formative and summative assessment
information.* (Shiel & Murphy, 2000, p. viii)

When rating a pupil's achievement, begin at the top of the list (the indicator regarded as being the most difficult) and continue downwards until you reach the highest indicator that has been achieved independently by the pupil, on more than one occasion.

Table 6.8: Indicators of achievement in writing – senior infants

10.	Suggests simple changes that can be made to own text to clarify meaning
9.	Writes an extended description using ideas from familiar stories or personal Experiences
8.	Explains the key ideas in own writing
7.	Recognises different forms of writing, explaining their purposes (See Note 7)
6.	Uses capital letters and full stops correctly in more than one sentence
5.	Makes a systematic attempt to match sounds and letters by including obvious consonant and vowel sounds in spellings (e.g. *roks* for *rocks*, *whitch* or *wich* for *witch*, *ther* for *there*)
4.	Spells some common words correctly (see Note 4)
3.	Writes from left-to-right and top-to-bottom, spacing words correctly and with few or no reversals of letters
2.	Writes own first and last names using capitals as appropriate
1.	Copies two or more sentences correctly from the blackboard

Notes:

7. Includes reports of own experiences, lists of recorded items, simple greetings and letters.

4. Includes frequently-occurring words encountered in reading; some numbers, colours, days of the week, notices – e.g. '*stop, pull, exit*', family, friends, games and toys.
Source: Shiel & Murphy (2000), p. 43.

An example of an indicator set from the profiles for writing (senior infants) is given in table 6.8. The profiles do not specify particular assessment contexts linked to specific indicators. Instead, it is recommended that teachers draw on information gleaned in a broad range of assessment contexts. The use and synthesis of information from multiple assessment contexts is consistent with the idea of teachers arriving at a 'holistic' or 'best fit' judgement of a child's overall achievement, based on relevant assessment information. For writing, relevant contexts are identified as:

- ongoing teaching and learning activities, during which the teacher makes and records informal observations (e.g. conferences with individuals or groups, where child responses are documented)

- outcomes of informal assessments (e.g. homework, spelling errors made by children)

- application of scoring rubrics to children's writing samples.

Application of the profiles results in two broad outcomes – a criterion-referenced outcome, indicating whether or not each indicator has been achieved, and a norm-referenced outcome, indicating a child's position relative to other children at the same class level (nationally). The former would be expected to feed into planning of instruction; the latter might be more useful for reporting purposes (e.g. reporting to parents or to other teachers about a child's writing proficiency). A drawback of the profiles, compared with the Common Core State Standards, is that there is considerably less detail. This, in turn, could limit the focus on instruction, if users equated the curriculum with the indicators.

The third example comes from the *Early Years Foundation Profile,* which must be completed at the end of the academic year in which a child reaches 5 years of age in England. The profile (which is now completed electronically) provides a set of indicators, against which teachers are asked to judge the performance of children in their classes. A nine-point system is used. The first three points work in much the same way as the *Drumcondra English Profiles*, with the teacher identifying the highest point achieved by the child. This is the base score. An additional point is added to the base score in respect of each indicator achieved between 4 and 8 (these are derived from 'early learning goals'). Point 9 indicates that all the indicators for the current year have been achieved. Table 6.9 shows the

indicators for reading at age 5. Concrete exemplars are provided for each point on the scale so that users can better understand its intended meaning.

Teachers who use tools for literacy assessment such as those outlined in this section will need considerable support in the form of exemplars to assist them in interpreting different levels of performance. In addition, teachers within schools will need to work closely together to ensure that standards are being applied consistently in assessing young children's early literacy learning.

Table 6.9: Early Years Foundation Profile (England) - Indicators of Reading (age 5)

1	The child takes part in book-sharing activities, listening to stories with interest or choosing to look at books in the book area. The child handles books appropriately, turning pages and looking at pictures.
2	The child can distinguish between pictures and print and recognises that information can be relayed in the form of print.
3	The child recognises some familiar words, for example his or her own name and common words in the environment.
4	The child follows print, from left to right and from top to bottom of the page.
5	When discussing a familiar story, the child identifies the main characters and basic sequence of events.
6	With encouragement, the child gains meaning from simple story texts, making some use of a range of cues, including knowledge of the story or context, what makes sense grammatically and word/letter recognition. The child reads at least 20 common words in a range of contexts.
7	The child can retell the main points or events of a simple narrative in the correct sequence, using linking language. Particular language patterns, such as 'Once upon a time', or 'Not I,' said the cat' (*The little red hen*), are remembered and used.
8	The child distinguishes fiction and non-fiction texts. He or she is developing an understanding of how to find information in non-fiction texts, for example by using the contents page.
9	The child uses a range of strategies to read simple texts independently with fluency and understanding.

Source: Qualifications and Curriculum Authority (2009). Early years foundation stage. Profile handbook. London: Author.

ASSESSING THE LITERACY OF EAL CHILDREN

Research indicates particular challenges in assessing the language and literacy development of children taking English as an additional

language (EAL) (e.g. Espinosa & Lopez, 2007). In addition to the general concerns and principles that educators apply to the assessment of any child's learning, there are particular issues that should be attended to in relation to the assessment of the language and literacy development of this particular population (Snow & Oh, 2011). It is recommended that these include the need to investigate and understand the total home language environment of the child including family SES, parent educational attainment, exposure, parent language proficiency, learning opportunities in the first and second languages, family culture and practices. It is only against such background knowledge of the child's total language and literacy environment that any reliable assessment can be made (e.g. Tabors, 2008). In terms of carrying out the assessment, research indicates that due consideration should be given to the fact that code switching (switching languages for phrases) and language mixing (inserting words from one language into another) are normal aspects of the ways in which a second language is acquired, developed and used. Where a child has only limited competence in the language of instruction, bilingual support in assessment situations is recommended. Furthermore, it is essential that the adult who is interacting with the child is fully aware of the child's language dominance (i.e. how the child balances the use of the different languages) and of the child's culture, particularly in relation to the cultural role of talk and talk with adults (Snow & Oh, 2011).

ASSESSMENT AT TEACHER AND SCHOOL LEVELS

Clearly, early childhood educators can learn much by implementing assessment on an ongoing basis for each of the key aspects of children's early language and literacy development. This information can be used as a basis for planning teaching and learning at the individual child and classroom levels. Often, it will be possible to group children according to their learning needs. For example, a

group may have difficulty with an aspect of phonemic awareness or spelling. Additional small group or individual teaching should be followed up with further assessment to ensure that the children have acquired taught concepts and skills.

Assessment outcomes should also be analysed at school level. Indeed, one of the key characteristics of effective schools in literacy is collaboration among staff members in terms of interpreting and analysing assessment outcomes, and planning instruction based on those outcomes (Au, Raphael & Mooney, 2008; Kennedy, 2008). There is also value in teachers within and across grade levels in a school working collaboratively to establish a shared understanding of learning standards (e.g. indicators, or scoring rubrics) in the context of applying them to children's work samples (e.g. audio- or video-recordings of oral language, running records, or writing samples).

SUMMARY

Assessment is now regarded as an essential aspect of teaching and learning, in both preschool and primary school settings. Six aspects in the assessment of literacy were considered: the roles of assessment for learning and assessment of learning in assessing early years literacy development; the aspects of early years literacy that should be assessed; the formal and informal assessment tools that can be used to assess literacy; frameworks that can be used to support teachers in conceptualising literacy assessment, and summarising outcomes of assessment; the assessment of children for whom English is an additional language; and approaches to using assessment data to inform planning at teacher and school levels.

In considering the role of assessment in early childhood settings, a distinction was made between assessment for learning (formative assessment) and assessment of learning (summative assessment). It was argued that most assessment at preschool and infant levels would be

formative and would often occur in authentic literacy contexts such as book reading, or early writing. The importance of observation as an assessment tool was emphasised. The involvement of parents in gathering assessment information was also highlighted.

Aspects of literacy that should be assessed in early childhood settings were identified as oral language, concepts about print, dispositions (including motivation and engagement), vocabulary/academic language, alphabetic knowledge, reading fluency, comprehension, spelling and writing. The importance of recording outcomes arising from informal assessments in these aspects of literacy was stressed, and the value of recorded outcomes in planning instruction was noted.

Assessment tools identified as particularly relevant for early years settings including preschools were narrative or story approaches, conversations and conferences with children, children's drawings and their written work, interviews, running records, miscue analysis, oral retelling, comprehension questions, cloze assessment, reading and writing conferences, and writing portfolios.

Parallel assessment frameworks for reading and writing were described, and different approaches to arriving at and recording an overall estimate of a child's performance in reading and writing were examined. Specific tools that were considered for this purpose included the United States Common Core State Standards, the Drumcondra English Profiles and the Early Years Profile used in statutory assessment of children aged 5 years in England.

In reviewing literacy assessment of EAL children, the importance of taking the home literacy environment into account was noted. The need to understand how and in what contexts a child uses different languages was also stressed. It was noted that the research literature recommends, if possible, EAL children should be assessed at the same time in both the language of the home and the language of the

school. The value of sharing school–level data as a feature of effective schools in literacy was noted, as was the value of teachers within and across grade levels collaborating to arrive at a shared understanding of learning standards as they applied scoring rubrics or other assessment tools to children's oral and written work samples.

CHAPTER 7:

ORAL LANGUAGE

AND LITERACY

How can teachers ensure that children's literacy development supports their oral language development?

The focus of this chapter is on links between oral language, reading and writing. An understanding of the links between on the one hand oral language, and reading and writing on the other, is important in that it can provide insights into how to support children in becoming better readers and writers, particularly those who struggle with aspects of oral language in the early years.

We would also argue that the question on which this chapter is based could be reversed – i.e. how can oral language development support children's literacy development? Oral language development can support literacy development, which, in turn, can support oral language development.

Lawrence and Snow (2011) identified a number of different relationships between oral language and reading, each with a theoretical orientation and each with instructional implications. These can be divided into two broad categories: a literacy skills perspective, where oral language is viewed as a skill, and a Vygotskian or scaffolding perspective, where oral language (discourse) is viewed as one of the essential ways to move from modelling to application in the 'gradual release of responsibility' model of reading comprehension instruction (Pearson & Fielding, 1991).

Literacy skills perspective – oral language as a skill

1. Skill in oral language is a developmental precursor to reading acquisition, implying that supporting oral language skills in early childhood will lead directly to better literacy performance (precursor perspective).

2. Skill in oral language is a prerequisite to reading with comprehension, as specified for example by the 'simple view of reading', implying that supporting oral language skills in early and later childhood contributes to later comprehension skills (component skill perspective).

3. Skill in oral language is crucial to participating in instructional interactions that lead to effective learning of vocabulary and comprehension skills (background knowledge, understanding of argument structure, support for aspects of a situation model and/or enhanced motivation as a precursor to and support for reading). This aspect of oral language is thought to be especially important in the years before the child can read independently, or when children are reading especially challenging texts (scaffolding of component skills perspective).

Vygotskian (scaffolding) perspective – oral discourse as a context for practising, appropriating and learning reading comprehension skills

4. Participation in oral discourse, taught and practiced in pedagogical approaches such as Questioning the Author (QtA) or reciprocal teaching (see below), is a mechanism for learning to experience and internalise responses to a text, that will eventually lead to greater comprehension skill (scaffolding of comprehension processes).

5. Participation in oral discourse, in programmes like collaborative reasoning (described below), is a mechanism for practising the perspective-taking and reasoning skills crucial to comprehension and writing (appropriate perspective).

6. Learning through modelling and practice to produce oral discourse of a sophisticated type (academic language) is, in addition to being a route to better literacy skills, itself a goal of education closely related to literacy, and a marker of full literacy development (autonomous goal perspective).

Hence, there is strong support for educators who might wish to deploy oral language as a means to support children's reading (and writing) development.

A key task of early childhood education is to develop oral discourse. Lawrence and Snow (2011) define oral discourse as 'extended oral productions, whether monologic or multi-party, centred around a topic, activity or goal' (p. 323). This entails 'acquiring the skills uniquely required for participation in oral discourse, i.e. setting aside the acquisition of grammar, vocabulary and pragmatic skills needed for casual conversation, but including the grammar, vocabulary and pragmatic skills needed for lengthier, topic-focused interactions, or for certain genres of monologue (definitions, explanations) even if relatively brief,' (p. 323).

LANGUAGE SKILLS THAT PREDICT PERFORMANCE ON READING TASKS

In this section, we consider links between oral language and two broad aspects of reading – those relating to the development of phonological and word reading skills (the so-called 'inside-in' reading skills) and those related to the development of reading comprehension ('outside-in' skills).

Snow, Burns and Griffin (1998) reviewed a broad range of cognitive, linguistic and physical factors associated with reading (and, therefore, reading difficulties) in the early years. They identified weaknesses in oral language (receptive and expressive vocabulary, syntax), phonological awareness (PA, also viewed as a dimension of oral language), and alphabet knowledge (AK) as prime targets of intervention to prevent the occurrence of significant reading problems. According to Snow and her colleagues,

> *Spoken language and reading have much in common. If the printed words can be efficiently recognized, comprehension of connected text depends heavily on the reader's oral language abilities, particularly with regard to understanding the meanings of words that have been identified and the syntactic and semantic relationships among them.* (p. 108)

In a similar vein, Whitehurst and Lonigan (1998) identified skills in the domains of oral language, print and letter knowledge, and phonological processing as encompassing aspects of emergent (early) literacy that are related to later conventional forms of reading and writing. Dickinson and Tabors (2001) found the scores that kindergarteners achieved on language measures (receptive vocabulary, narrative production, and emergent literacy) were highly predictive of their scores on reading comprehension and receptive vocabulary in fourth and seventh grades. According to Muter, Hulme, Snowling and Stevenson (2004),

> *Whereas word recognition seems critically dependent on phonological processes (particularly phonemic sensitivity and letter knowledge), reading comprehension appears to be dependent on higher-level language skills (vocabulary knowledge and grammatical skills* (p. 675).

It is important to note that skills like letter name knowledge, phonological/phonemic awareness, and concepts of print are important for a relatively short time during reading acquisition. By fourth class, only children with significant reading difficulties or special educational needs will continue to require support in these areas. On the other hand, oral language remains an important foundation for reading (and learning more generally) well beyond the initial stages of reading development. If children come to reading with a strong oral language base, they can build further on that base,

establishing a reciprocal relationship between oral language and reading.

Paris (2005) provides a useful framework for assessing the role of oral language and other skills in reading acquisition. He identifies two categories of skills related to reading:

• *Constrained skills* – skills such as early print concepts[1], letter name knowledge, phonemic awareness and oral reading fluency are constrained to small sets of knowledge that are mastered in relatively brief periods of development. They develop from nonexistent to high or ceiling levels during childhood. Constrained skills comprise a narrow range of skills (e.g. letter name knowledge or early print concepts which influence acquisition of grapheme-phoneme relations).

• *Unconstrained skills* – skills such as knowledge of vocabulary and syntax are unconstrained by the knowledge to be acquired or by the duration of learning. Developmental trajectories are more uneven than for constrained skills. Unconstrained skills influence a broad range of areas (e.g. vocabulary development is related to linguistic, cognitive and communicative proficiency in wide-ranging ways).

Table 7.1 provides a partial list of constrained and unconstrained skills related to reading.

Table 7.1: Constrained and unconstrained skills for reading

Constrained Skills	Unconstrained Skills
Letter name knowledge	Oral language – vocabulary
Concepts of print	Phonological memory
Phonemic / Phonemic awareness	Rapid naming
Oral reading fluency	Reading comprehension
Spelling	Writing (composition)

1   Paris (2005) defines concepts of print as concepts about word boundaries, sentences, punctuation marks, directionality of reading, and other features of text orthography.

A number of recent studies provide insights in the nature of the relationship between oral language and reading. Roth, Spence and Cooper (2002) examined relationships between oral language (receptive and expressive) and early reading acquisition by conducting a longitudinal study of normally-developing children as they progressed from kindergarten (senior infants) to grade 2 (second class). The framework underpinning the study is shown in figure 7.1. Roth et al. (2002) reported the following findings:

- Phonological awareness measured in kindergarten predicted real word and pseudo-word reading in first and second grades.

- However, phonological awareness in kindergarten did not predict reading comprehension in first and second grades.

- Two aspects of oral (structural) language – oral definitions[2] and word retrieval[3] – and print awareness were most predictive of first and second class reading comprehension.

- The contribution of metalinguistic skills, as measured by comprehension and production of lexically ambiguous oral sentences, contributed to first grade word reading to the same extent as phonological awareness.

- Narrative discourse, as measured by the ability to retell a familiar story and ability to comprehend stories, was not related to reading comprehension performance in first or second grades.

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2 Roth et al. describe this task as involving use of decontextualised language since it entails removing oneself from language and talking about the world beyond the 'here and now'.

3 Word retrieval was measured by asking children to name individually presented pictures of familiar objects.

Figure 7.1 – Conceptual model of background factors, oral language domains, and early reading
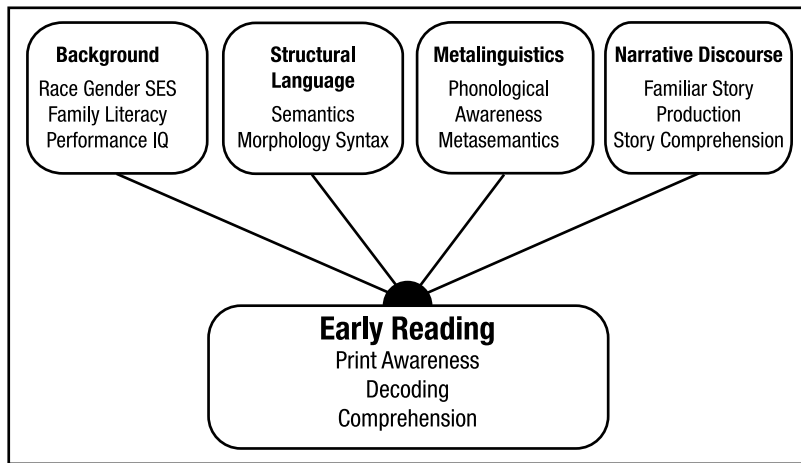
Source: Roth et al., (2002), p. 260.

Gambrell (2004) interpreted these outcomes, and those from other similar studies, as confirming that vocabulary is important for reading development as skilled reading begins to emerge. However, she noted that word retrieval includes both phonological and semantic components, and hence represents a confluence of semantic and phonological knowledge. She also noted that another meaning component, metalinguistic awareness, which can be viewed as an aspect of oral language, contributed to word reading in first grade. With regard to the finding that narrative discourse did not predict reading comprehension in first or second grade, Roth et al. hypothesised that narrative discourse would begin to have a stronger association with reading comprehension as children mastered word reading and began to read connected text for meaning (i.e. reading comprehension in first and second grades is largely driven by word–level processes such as word identification and understanding of individual word meanings, and it is not until later that narrative (oral language) skill becomes more important for proficient readers).

Storch and Whitehurst (2002) conducted a longitudinal study of children from kindergarten to grade 4. They found a moderate

indirect effect of language on fourth-grade reading comprehension. The effect was a combination of the relationship between oral language to code-related skills and code-related skills to later reading. They concluded that their model 'demonstrates that the relationship between oral language and reading skill in the early stages of reading development is mediated by code-related skills, such as phonological processing and print concepts' (p. 943).

A third study, by the US National Early Literacy Panel (NELP, 2008), sought to identify skills and abilities of young children measured in kindergarten (senior infants) or earlier that linked to outcomes in reading, writing and spelling (conventional literacy skills) in kindergarten or later. Meta-analysis was used to combine outcomes across studies. The following were the main results when decoding was the outcome of interest:

- Conventional literacy skills measured in kindergarten or earlier were the strongest predictors of later performance on decoding. These included decoding non-words (average of zero-order correlations, 0.72), formal spelling (0.60)[4] and invented spelling (0.58).

- Variables typically associated with early literacy development, including alphabet knowledge (0.50), phonological awareness (0.40), ability to write or write one's own name (0.49) and rapid naming of letters or digits (0.40) had strong to moderate relationships with decoding, while concepts of print (0.34), oral language (0.33), and rapid naming of objects or colours (0.32) had only moderate relationships.

- Variables that had weak relationships with decoding included print awareness (0.29), environmental print (0.28), phonological short-term memory (0.26), and measures involving visual skills (0.22–0.25).

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4   Reference to formal tests of reading or spelling in kindergarten should not be be taken to imply that such measures are being endorsed as age-appropriate.

When reading comprehension was the main outcome of interest, it was found that:

- Measures of reading readiness (a mixture of skills) (0.59) and concepts of print (0.54) administered in kindergarten or earlier were the strongest predictors of concurrent or later (grade 2) reading comprehension.

- Variables that had moderate to strong relationships with reading comprehension included alphabet knowledge (0.48), print awareness (0.48), phonological awareness (0.44) and decoding non-words (0.41). There were moderate relationships with reading comprehension for decoding words (0.40), phonological short term memory (0.39), oral language (0.33), and writing or writing own name (0.33).

When the panel looked at multivariate results for predictor variables and conventions of print measures, they found that in some studies oral language continued to be a significant predictor of decoding and reading comprehension when age and socioeconomic status were controlled for, but that, in other studies, oral language was not a significant predictor when alphabet knowledge and phonological awareness were controlled.

The moderate effects of oral language in NELP may reflect the fact that most of the studies selected for analysis were not longitudinal. In critiquing the outcomes, Dickinson, Golinkoff and Hirsch-Pasek (2010) argued that:

- NELP failed to describe the pervasive effects of language which often fosters reading through indirect mechanisms – language has impacts on a range of abilities that underpin multiple aspects of early reading.

- The narrow developmental framework (0-6 years) that NELP was asked to analyse does not reflect the duration of the language effect (which extends well beyond beginning reading).

- NELP highlights rapidly developing code–based factors potentially reducing the attention that practitioners will give to more slowly-developing linguistic and background knowledge (something that would undermine the early and long-term reading abilities of the children most in need of educational supports – those from low-income homes, and those who speak languages other than the language of instruction at home).

- NELP overlooked studies that point to the potential effects of language in the early years on children's self-regulatory abilities (Dickinson, McCabe & Essex, 2006).

Role of oral language in developing reading comprehension

Exposure to extended discourse at home and in preschool or kindergarten years has been identified as a key predictor of later literacy success. Tabors et al. (2001) devised an extended discourse measure made up of engaging in pretend talk during toy–play, discussing information that went beyond that present in text or pictures during book reading, and participation in narratives and explanations during dinner table conversations. This measure (using data collected at age 3) was a good predictor of oral language and emergent literacy skills in kindergarten. Similarly, extended discourse in children's preschool classrooms (age 4), defined as frequency of engagement in cognitively challenging talk during group activities such as book reading and morning circle (news) time, also predicted kindergarten performance.

Several studies have shown that the quality of book reading interactions during the preschool years predicts vocabulary outcomes and that these, in turn, predict later reading outcomes (e.g. Sénéchal, Ouellette and Rodney, 2006). A number of studies have related book reading directly to vocabulary, if the talk is explicitly structured as dialogic, i.e. if there are rich opportunities for children to respond to open-ended questions (e.g. Hargrave & Sénéchal, 2000). Lawrence and Snow (2011) note that the ultimate goal of dialogic reading, learning to retell a story autonomously, constitutes direct instruction in comprehension of written texts, delivered to children at an age before they read those texts. Resnick and Snow (2009) provide detailed examples of oral language activities for children (3-8 years) that are designed to support aspects of reading development including reading comprehension. The examples are significant to the extent that they are based on a standards framework.

The relationship between oral language and reading can also be considered in terms of how oral language is implicated in the use of instructional strategies designed to enhance reading comprehension. As noted in Chapter 4, Shanahan et al. (2010) identified a number of clusters for which there were varying levels of research support.

Despite the relatively disappointing research evidence for discussion as an approach to developing text comprehension, Shanahan et al. (2010) recommended that:

> *teachers lead their students through focused, high-quality discussions in order to help them develop a deeper understanding of what they read. Such discussions among students or between the students and the teacher go beyond simply asking and answering surface-level questions to a more thoughtful exploration of the text. Through this type of exploration, students learn how to argue for or against points*

> *raised in the discussion, resolve ambiguities in the text, and*
> *draw conclusions or inferences about the text.* (p. 24)

Indeed, Shanahan et al. went further by providing specific recommendations for using dialogue to teach oral language, including the following:

- Structure the discussion to complement the text, the instructional purpose, and the readers' ability and grade level.

- Develop discussion questions that require children to think deeply about the text.

- Ask follow-up questions to encourage and facilitate discussion.

- Have children lead structured small-group discussions.

The lack of research support for discussion for children up to grade 3 in part reflects a lack of relevant studies involving children this young. It may also arise from a difficulty in separating out the effects of dialogue or discussion from the effects of comprehension strategy usage in studies that seek to implement both. Finally, as noted earlier in relation to the NELP study, reading comprehension up to grade 3 may not involve higher-level thinking, as children struggle to learn and apply decoding skills. On the other hand, several studies have focused on the value of discussion as a means of developing the reading comprehension skills of older children (those beyond 8 years of age) (see, for example, Wilkinson and Hye Son's (2011) review of dialogic approaches to teaching reading comprehension, and Almasi and Garas-York's (2009) research synthesis on comprehension and discussion of text).

An example of a discussion-based reading comprehension technique designed for older students that has been modified for use with younger children is Reciprocal Teaching (Pilonieta & Medina, 2002).

Pilonieta and Medina show how the components of Reciprocal Teaching – predicting, clarifying, question generation, and summarising – can be employed collaboratively by younger children to jointly construct understanding of text with strong teacher support for when the strategy is initially introduced, and a gradual reduction in support as they become more proficient and begin to apply the strategies to new content and texts. The designation of specific roles to children (the prediction-maker, the questioner, the clarifier, the summariser) and the use of cue cards ensures that children are active participants. Some of these strategies are embedded in the Bridges of Understanding programme developed by the Curriculum Development Unit at Mary Immaculate College, Limerick. According to Shanahan et al. (2010), comprehension instruction that involves multiple strategies (such as Reciprocal Teaching, and Transactional Strategy Instruction (Brown et al., 1996)) is as effective as single-strategy instruction and indeed, may be more effective in ensuring that strategy usage transfers across different texts.

Consistent with NELP, Lawrence and Snow (2011) identified a number of oral language development activities that could be used to promote reading comprehension including:

- establishing a purpose for reading

- activating relevant background knowledge

- posing open-ended questions that require deep processing

- responding to child initiatives

- promoting peer interaction.

Lawrence and Snow contrasted these strategies with more routine IRE (initiate-response-evaluate) instructional models which tend to suppress oral language discourse rather than enhance it. They

suggested the following lesson frameworks to promote the type of collaborative discussion that facilitates the effects of oral language on comprehension:

- *Reciprocal teaching* (described above)

- *Collaborative reasoning* (Reznitskaya et al., 2001, 2008) – a Vygotskian approach that is based on the premise that participation in argument and discussion produces critical thinking skills, particularly an understanding of the argument schemes that are critical in reading and writing. Collaborative reasoning occurs in peer groups guided by teachers who might prompt children to state their positions clearly, challenge them with counter arguments, sum up good arguments, and model good reasoning processes. In evaluation studies based on this model, essays written by children engaging in collaborative reasoning contained more supporting reasons, more anticipatory counter-arguments, more rebuttals, and more arguments than those in the standard teaching condition.

- *Questioning the author (QtA)* (Beck & McKeown, 2006; Beck, McKeown & Hamilton, 2007) – entails the teacher querying rather than questioning, and requires children to provide elaborate responses in their own language and engage with other children to determine and co-create meaning. Prompts, which can be used after each section in a text include: *What is the author trying to tell you? Why is the author telling you that? Does the author say it clearly? How could the author have said things more clearly? What would you say instead?*.

  Teachers model a range of 'talk moves' that helps children to sustain conversations. Work in classrooms indicates that introducing QtA can lead to a reduction in information retrieval questions asked by teachers and a significant increase in child talk.

Beck and McKeown also reported a large increase in the numbers of children whose responses gave evidence in their own words of having created a complete situation model of the text (i.e. confirming that they understood it well).

- *Accountable talk* (Wolf, Crosson & Resnick, 2006) – requires evidence of participation, linking ideas (from both children and teachers), and asking for and modelling rigorous thinking. In one study involving 21 elementary and middle-school lessons, discourse was evaluated in terms of whether it was accountable to the learning community (participants listen and build their own contributions in response to others), accountable to accurate knowledge (talk based on facts, written texts and other public information), and accountable to standards of reasoning (talk that emphasises logical connections and the drawing of reasonable conclusions) (Michaels, O'Connor & Resnick, 2008). The outcome showed that child discussion made a significant contribution to academic rigor. Accountable talk has also been used in mathematics lessons and has raised the test scores of low-income children (Chapin, O'Connor & Anderson, 2003). These outcomes can be interpreted as indicating that teachers may need support in using 'talk moves' in the context of classroom discussion. This includes teacher responses that extend discussion (*Does anyone else want to add to that? Who can say this in their own words? She was probably trying to say. . . I agree with what Alan said…*).

- *Word generation* (WG) (Snow, Lawrence & White, 2009) – focuses on helping children develop vocabulary and academic language skills by ensuring repeated exposure to frequently occurring academic words across various academic disciplines. Although academic vocabulary is the target of instruction, a wide range of literacy and classroom discussion activities and protocols are used which provide opportunities for classroom discussion and for

hearing and using new words in engaging contexts. Each week's words are presented in a paragraph that sets up a controversial topic or theme e.g. immigration, school uniforms. The treatment predicted word learning for children, although word learning gains were small. Word learning in turn was associated with improved results on state standardised assessments of reading and language arts. According to Snow et al., improvement was not simply a function of the number of words read, but also reflected the level of child participation and involvement in class discussions, daily discussion and rigorous debate.

Lawrence and Snow (2011) identified other teaching practices for which there is limited research evidence (and hence, additional research is warranted). These were:

- *Literature circles*–which provide opportunities to discuss books, emphasise rich child discourse and provide a range of tools for teachers to think about how to help children maintain academic discussion (see earlier section on teaching reading comprehension).

- *Book clubs*–which do not prescribe specific strategies, giving rise to large variation in how they are conducted. According to Marshall (2006), non-struggling readers benefit from this approach to a greater extent than weaker readers.

Lawrence and Snow concluded by identifying four teacher behaviours associated with effective classroom discussion:

i. **Modelling** – teachers who model how they handle the reading challenges they meet by 'thinking aloud' can help children understand what skilled readers do as they are reading, and thus provide explicit guidance to children on how to do the same.

ii. **Direct explanation** – teachers name specific strategies and talk about when they should be employed. This can improve children's use of strategies over the modelling of the strategy on its own.

iii. **Marking** – the teacher responds to a child's question or comment in a way that highlights specific aspects of the text. Turning back is a similar move in which the teacher turns the conversation back to the child by asking 'What does the author say about this?'

iv. **Verifying and clarifying children's understandings** – the teacher re-voices a child's comment (or asks another child to do so), in some cases reformulating meaning, and asks the child if that was what was intended.

LANGUAGE IMPAIRMENT AND READING COMPREHENSION

A third important strand of research in understanding relationships between oral language and reading is that which focuses on the reading performance of children with language impairment.

Catts (1997) identified six language-related indicators that may signal children at risk of later problems in learning to read:

- limited speech-sound awareness

- problems in word retrieval

- limited verbal memory

- limitations in speech production and/or perception

- difficulties with oral language comprehension

- limited oral language production (related to difficulties with syntax, productivity, narration and/or perception).

These indicators are linked to two broad language-based predictors of reading outcomes noted earlier: general language abilities, including vocabulary and syntactic knowledge, and phonological awareness. Snowling (2005) argues that, when children have difficulty in learning vocabulary and constructing meaning from syntactic structure, they are likely to have both persistent language difficulties and reading problems. According to Kaiser, Roberts and McLeod (2011), the timing and extent of developmental disruptions that affect primary acquisition of oral language will be reflected in difficulties in learning to read, with mild disruptions in language development (e.g. productive language delays in typical late talkers) having modest effects on reading, and persistent oral language difficulties having a strong negative impact on reading. Several reviews of the literature on reading acquisition (e.g. Snow, Burns & Griffin, 1998; NICHHD, 2000; NELP, 2008) attest to the importance of phonological awareness in general, and phonemic awareness in particular, in children's early reading.

Kaiser, Roberts and McLeod (2011) make the following points about language impairment and reading:

- Language is a complex system that depends on many different developmental processes including general cognitive processes such as short-term memory, language-related cognitive abilities, perceptual and auditory processes, and motor abilities for speech production.

- Acquisition of both oral language and reading is affected by children's global development of skills for learning the phonological, lexical and morpho-syntactic systems.

- Links between early language impairment and problems in learning to read are complex and robust.

- Children with language delays vary greatly in the source of their impairments, and these variations have implications for the nature and severity of subsequent difficulties in learning to read.

- Early intervention and assessment of children's response to language intervention are essential in preventing persistent language delays that may affect reading.

Children with language impairment who are at risk of reading difficulties can be grouped into the following broad categories:

- *Children with developmental disabilities* (global developmental delay), including: those with motor impairment (e.g. cerebral palsy and severe oral dyspraxia), Down syndrome (where early language acquisition is similar to typical children around 24 months, but where later development follows a pattern of significant receptive and productive delays, with relatively later delays in complex syntax than in vocabulary development); children with autism spectrum disorder (who have difficulty interacting socially with others and therefore face limited opportunities for language development); children with hearing impairments and other cognitive impairments (where the extent of delay varies with the age of identification of hearing loss and adequacy of early intervention to improve hearing, and ensure access to speech and language input); and children with undetected mild hearing loss (where there may be effects on both oral language and reading).

- *Children with language delays and typical cognition* (specific language disabilities) including: children for whom the emergence of language is late at 24 months (though most recover, a minority show persistent delays, which may reappear in the early school years, and impact negatively on reading development); children with concurrent delays in receptive and expressive language (a majority of these children show persistent patterns of language

impairment); and children with expressive and receptive delays and mild cognitive delay.

- *Children with language delays and behaviour problems* – among children with identified language impairment, rates of prevalence of behaviour problems have been reported to range from 30% to 60% (Kaiser et al., 2011), with increased behaviour problems often associated with lower social/pragmatic skills. However, it seems that poor social competence rather than behaviour problems may be the critical correlate of low expressive language development (Horowitz et al., 2003).

- *Children from socioeconomically disadvantaged backgrounds* – as noted earlier, children from socioeconomically disadvantaged backgrounds are at increased risk for delays in vocabulary acquisition, and this may impact on general language skills as well (Hoff, 2006). This, in turn, increases risk of later reading difficulties. The amount of book reading, exposure to text, and teaching about sounds and words differs between disadvantaged children and children growing up in more favourable circumstances.

LINKS BETWEEN ORAL LANGUAGE AND WRITING

Many of the recommendations for enhancing reading through the development of oral language discourse are also applicable to writing. For example, we can conceptualise writing as comprising lower-order (constrained) skills such as spelling, on the one hand, and higher-order (unconstrained) skills such as knowledge of text genres and sensitivity to author and audience on the other. As with word-reading, oral language contributes to the development of the phonological processes underpinning spelling. Indeed, spelling often appears alongside oral reading as a measure of early literacy skill. But, as the model of spelling development (Gentry, 1982, 2000) described

earlier indicates, for most children, spelling improves quite rapidly in the early years of schooling. On the other hand, children's understanding of text genres (e.g. narrative, argumentation) takes time to evolve, and can be supported by the types of discussion that occur around texts that children have read. But there may also be value in providing explicit instruction in how to structure writing (e.g. Lewis & Wray, 1995; 1998). Lewis and Wray show how writing frames can support children's writing development not just in English classes but across the full curriculum.

A large body of research has documented the connection between reading and writing (Pearson, 1990; Fitzgerald & Shanahan, 2000) and the strategic processes underlying both activities. The cognitive operations for reading and writing draw on similar sources of knowledge (Clay, 1991; Rumelhart, 1994). As children read, they search, monitor, and self-correct using meaning (semantics), structure (syntax) and graphophonic information (sound, letter and word patterns) (DeFord, 1994). As they write they use their oral language, their knowledge of the conventions of print and graphophonic information (Anderson & Briggs, 2011). The explicit language used by teachers can help children to make connections between reading and writing. Table 7.2 illustrates the common ground between reading and writing and points to the strategic processing involved in both reading and writing.

Table 7.2: Processes common to reading and writing

Strategic processing	Child as writer	Child as reader
Searching for meaning	Generates ideas with audience in mind	Uses print to construct meaning
Monitoring for meaning	Checks 'Does the message make sense?'	Checks 'Does this word/ phrase make sense?'
Attending to structure	Groups words together in phrases to express message	Anticipates the order of words based on knowledge of book language and oral language
Monitoring for structure	Checks the order of the words supporting the intended message	Re reads (out loud or holds message in mind) 'does this sound right?'
Searching for graphophonic information	Uses knowledge of how letters, words, print works to record message	Seeks out graphophonic information from print in relation to meaning and structure
Monitoring for graphophonic information	Checks, detects and proof reads for discrepancies between intention and input	Checks that the print represents the message
Self-correcting	Detects and corrects	Detects and corrects

Adapted from Anderson & Briggs, (2011).

SUMMARY

We examined links between oral language and literacy, and, in particular, ways in which oral language can support literacy development and vice versa. A distinction was made between oral language as a skill upon which future success in reading (and writing) is based, and oral language as a context for learning and practising reading skills. The former view highlights the links between oral language and the development of phonological processing and reading comprehension skills. The latter stresses the important role of the carer/teacher in promoting high levels of cognitive interaction, engaging children in extended oral language discourse and scaffolding them as they deploy reasoning strategies and engage in perspective-taking.

The literature indicates that, whereas early oral language proficiency is highly predictive of acquisition of constrained skills such as letter-

name knowledge, concepts of print, phonemic awareness and oral reading fluency in the junior classes in primary school, its effects on unconstrained skills such as vocabulary knowledge and reading comprehension is less clear. Indeed, it may not be until fourth class or later that the real effects of work on developing vocabulary knowledge (particularly academic vocabulary) and knowledge of discourse (e.g. narrative discourse) have a significant impact on reading comprehension. This may be because the texts that younger readers encounter in their early reading depend more on decoding knowledge and understanding of individual word meanings than on higher-level language skills. Nevertheless, research evidence supports the teaching of oral language and reading comprehension from preschool onwards, so that children can bridge the gap between basic reading texts encountered in early reading instruction, and more complex texts that they encounter from third or fourth class onwards, not only in English classes, but across the curriculum.

The research literature has identified a number of approaches to teaching reading comprehension that draw heavily on oral language, including discussion. For example, classroom activities emphasising the teaching of reading comprehension strategies have been shown to have a high or moderate impact on reading comprehension. It is not clear how these strategies impact on oral language since it is generally not possible to separate out the effects of the strategy from the effects of language usage or development. This arises because most studies of reading comprehension examine the effects of strategy instruction on reading comprehension rather than on oral language as well.

Another type of reading comprehension instruction for which there is somewhat limited evidence of effectiveness is discussion-based comprehension strategies – that is, approaches to teaching reading comprehension that depend heavily on discussion among children,

including structuring discussion questions that require children to think deeply, asking follow-up questions that facilitate discussion, and having children lead discussion groups. Despite limited evidence from such studies (e.g. Shanahan et al., 2008), mainly due to methodological limitations, most researchers recognise the value of using discussion-based approaches such as reciprocal teaching, collaborative reasoning, questioning the author and accountable talk to foster children's engagement in discussing texts. As with instruction in specific comprehension strategies, effective discussion approaches require modelling by the teacher, direct explanation, marking (where the teacher responds to a child's question or answer by highlighting a particular aspect of the text), and verifying and clarifying children's understandings.

Research on reading development confirms that two clusters of oral language abilities – phonological awareness on the one hand, and general language abilities (e.g. vocabulary knowledge, syntactic knowledge) on the other – are predictive of later reading ability. When delays in language development occur, they are likely to impact negatively on one or both aspects of language, and hence on reading literacy. Children with Down syndrome develop oral language in the normal way until around 24 months, and may then experience significant receptive and productive delays, which, in turn, may delay reading. Children with autism may not benefit from the levels of social interaction that sustain language development and hence may struggle to acquire reading skills. Children with concurrent receptive and expressive delays may also experience severe reading impairment. Early intervention is strongly recommended for these and other at-risk groups so effects on reading development can be minimised.

Young children's writing (composition) development can also be supported by engaging them in language-based activities. For

example, instruction in identifying the structure of text genres (which is sometimes embedded in reading instruction) can also form a part of the preparation of writing. Similarly, children can describe and explain their own written texts in the same way as they explain texts they have read.

CHAPTER 8:

LITERACY ACROSS

THE CURRICULUM

How can teachers ensure that children's literacy development is supported across the primary curriculum, including through second language learning?

This chapter examines ways in which literacy (reading and writing) can be supported in different areas of the curriculum. First, the use of inquiry-based models of reading across different curriculum areas is considered as a means for developing literacy across the curriculum. Second, ways in which creativity and literacy can be developed together in English classes and in other subjects are examined. Third, second-language learning across the curriculum is explored.

INQUIRY-BASED MODELS OF LITERACY

Barron and Darling-Hammond (2008) have noted that instructional approaches which employ inquiry-based learning can create powerful learning opportunities in the classroom and support reading development and learning across disciplinary subjects. Inquiry-based learning models include clearly defined learning goals and are underpinned by a clear assessment framework. In addition, children are involved in activities where meaningful questions are formulated, resources are evaluated with reference to the task goal, collaborative reasoning approaches are adopted, outcomes are predicted and findings are reported. In sum, inquiry-based learning provides rich contexts for children to acquire, clarify, apply and critically evaluate information related to themes or topics which are relevant and authentic. In the sections which follow, the Seeds of Science/Roots of Reading and the Concept-Oriented Reading Instruction (CORI) inquiry-based models, which link literacy and content areas, are considered.

SEEDS OF SCIENCE /ROOTS OF READING MODEL (SEEDS/ROOTS)

The basic premises of the synergy between literacy and science underpinning the Seed/Roots developmental inquiry model are that 'comprehension strategies *are* inquiry strategies; words *are* concepts; science *is* discourse; and literacy *is* visual literacy' (Cervetti, Pearson, Bravo, & Barber, 2006, p. 226, italics in original). Firstly, science and literacy share a number of cognitive functions and strategies for inquiry-based learning. These include creating and forming goals for learning, making predictions, activating prior knowledge, making connections and drawing inferences. Secondly, 'words are fundamentally conceptual' (Cervetti, Pearson, Barber, Hiebert & Bravo, 2007, p. 164). Conceptual knowledge of a core scientific vocabulary is built when children become aware of conceptual connections between words, thus forming networks between concepts. Vocabulary is presented in a multimodal fashion where children 'read it, write it, talk it and do it'. Everyday language is used as a window to develop scientific language, for example replacing *clues* for *evidence* or *look* for *observe*. Thirdly, text is used in the Seeds/Roots model to support first hand investigation either before, during or after investigation. The Seeds/Roots team (ibid, 2006, ibid, 2007) argue that both text and experience have a role to play in the inquiry process. Although acknowledging that text cannot replace first-hand experience, the team argue that text can provide a route into the specialised language of the discipline, model scientific processes and present content which may not be observable first-hand. These arguments are similar to those presented by the Guided Inquiry Supporting Multiple Literacies (GIsML) team (Palinscar & Magnusson, 2001). Finally, science is a 'discourse about the natural world' (Cervetti et al., 2007, p. 165) with its own vocabulary and organisational structures. The Seeds/Roots model provides structured supports for children to engage in the discourse of the discipline in

making claims, critiquing, communicating findings and presenting evidence-based arguments.

Research conducted on the Seed/Roots model (Barber, Catz & Arya, 2006) showed that children in the programme made significant gains across a series of measures including science content knowledge and literacy skills when compared to all other treatment groups (science-only, literacy-only and no treatment groups).

THE CORI MODEL

In the CORI model developed by Guthrie and his colleagues (see for example, Guthrie et al., 1996; Guthrie et al., 2006; Guthrie, Wigfield & Perencevich, 2004; Swan, 2003) draw together principles from theoretical perspectives, such as intrinsic motivation (Ryan & Deci, 2000), interest (Alexander, 2006), self-efficacy (Bandura, 1977) and strategic instruction (NRP, NICHHD, 2000) to frame an instructional model which seeks to simultaneously support the construction of conceptual scientific knowledge, the acquisition of cognitive reading strategies and the development of engaged and motivated reading.

In brief (the reader is directed to Guthrie et al., 2004, for a more detailed description), CORI identifies a number of classroom characteristics which support the cognitive and motivational aspects of reading: (a) scientific inquiry is developed across four strands observe and personalise, search and retrieve, comprehend and integrate and communicate; hypothesise, collect data and represent graphically; (b) a conceptual science theme is developed over a 12 week period which seeks to forge links between narrative texts and informational texts; (c) the children are offered choice and are immersed in a print-rich environment with an abundance of interesting texts which are designed to develop situational interest; (d) reading strategies drawn from the NRP (NICHHD, 2000) report,

such as activating prior knowledge, asking questions, searching for information, organising graphically, and summarising, which are explicitly taught and developed, singly initially and then in tandem; (e) hands-on activities designed to develop situational interest precede instruction; and (f) collaboration between children, which is encouraged. In this way, CORI is designed to enable children to make connections between their hands-on experiences, the reading strategies they employ and the development of intertextual links across narrative and informational science texts. Again, the evidence for CORI significantly improving children's reading comprehension, motivation and engagement for reading and conceptual knowledge for science is substantial (Guthrie et al., 1998). Guthrie, Wigfield, Barbosa et al., (2004) compared the CORI model to two other instructional frameworks: a strategy instruction only (without motivational support), and a traditional instructional framework. Children in the CORI model again outperformed their counterparts in both. The aspects of motivational support offered by CORI and the degree to which specific aspects of CORI, such as autonomy, choice, hands-on activities or the provision of interesting texts impact on engagement, the development of reading comprehension and conceptual knowledge remain unclear and warrant further investigation (Miller & Faircloth, 2009).

CREATIVITY AND LITERACY

An important dimension of literacy that is often overlooked is creativity. In addition to instruction that focuses on developing children's cognitive abilities in and through literacy, it is important to provide children with opportunities to engage in creative literacy activities to support their emotional and imaginative development. Hence, activities such as responding to reading in non-print forms, dramatic play, and writing workshops can be used to foster key creative skills.

How can play support young children's literacy across the curriculum?

Early education is about play and playful experiences as play is fundamental to early childhood and is the most natural way in which the young child learns and develops (Moyles, 2010). Play is difficult to define given there are many types of play (e.g. creative, exploratory, physical, pretend, language, and games with rules) and each incorporates a wide variety of behaviours. Hutt et al. (1989) devised a taxonomy of play categorising it into *epistemic, ludic* and *games with rules*. Epistemic play refers to the development of knowledge and skills through exploration while ludic play refers to imaginative and creative play where children have opportunities to practise and rehearse language skills. Other educationalists have employed such categorisations as *directed* and *free* (Moyles, 1989), and *structured* and *unstructured* (Manning & Sharp, 1977). *The Primary School Curriculum* (NCCA, 1999) advocates play as a crucial learning medium for young children in infant classes, and highlights its role in the development of language and imagination. *Aistear* (NCCA, 2009) goes further and prioritises play and playful approaches in young children's learning and development. It stresses that play in early childhood is a way of 'doing things' and 'often mirrors what is important in children's lives'. It acknowledges that children live in a social context, and this has an influence on the nature of their play. As contexts may vary according to a number of factors including culture, religion and gender, each of these have an effect on the form of play that the child engages in (Morrow & Schickedanz, 2006; Bodrova, 2008, Rowe, 2007).

Play enables children to integrate and consolidate a wealth of experiences that enhance their cognitive, physical, social and emotional development (Wood & Attfield, 2005). In attempting to outline the boundaries of play, *Aistear* (NCCA, 2009, p.53) includes such features as exploration and the learning of new concepts,

consolidating existing learning experiences, practising or strengthening relationships, fun and enjoyment. As illustrated already in this document, play is a most powerful medium for learning across the curriculum in the early years. It is well documented in the research that

- children have many ways of creating meaning (multi-modality) and when this is facilitated through imaginative play, exploration is believed to increase the depth and richness of children's meaning-making (Kress, 1997)

- media and technology offer children different ways of accessing, representing, and "reading" meanings through graphics, layout, sounds, hypertexts (Worthington, 2007, p. 257)

- observable links may be identified between children's playful mark-meaning and early mathematical understanding (Worthington & Carruthers, 2003) and literacy (Worthington, 2007)

- children who engage in child-initiated playful activities exhibit evidence of problem-solving abilities and creativity (Schmidt, 2009)

- children need opportunities to take risks in playful situations (Tovey, 2010)

- play is highly effective in generating both abstract and creative thinking: it improves the child's ability to reason and extends all aspects of his or her conversational competence and narrative abilities (MacNaughton & Williams, 2004)

- children's knowledge of text is enhanced when adults model how to use text and other visual resources during dramatic play (MacNaughton & Williams, 2004).

As was noted in the research, while some educationalists suggest that play contexts should include literacy artefacts (Makin, 2003), others advise against the inclusion of reading and writing activities into the play activities of children aged 3-4 years (Bodrova & Leong, 2006). They favour instead play with unstructured materials with a focus on vocabulary development (Harris et al., 2011) and quality verbal interactions (Bodrova & Leong, 2006). They suggest that play provides many opportunities for children to gain experience with taking on roles, playing with unstructured materials, and engaging in extended verbal exchanges. Similar sentiments are outlined in *Aistear* (NCCA, 2009, p. 54), wherein it is stated that through playing and 'hands-on experience children see and interact with print as they build an awareness of its functions and conventions'. It is also stressed therein that the environment and the resources available influence greatly how children play, and the activities they engage in. It calls for well-planned spaces where young children have access to a wide selection of resources and experience a variety of types of play that support their learning and development across the four interrelated themes of *well-being, identity and belonging, communicating,* and *exploring and thinking.* As Hayes (2010) argues, when adults work with young children they are providing a curriculum based in general on the assumption that children learn best through play, because 'play is the curriculum' (Moyles, 2010, p. 28).

Drama and literacy

Drama as an art form can make a significant contribution to children's literacy development. It provides opportunities for nurturing the aesthetic and creative dimensions of literacy as children respond in a multimodal way to high-quality texts in reading workshops and create their own texts within writing workshops. One definition (Cremin et al., 2009, p. 4) sees creativity as

> *…the capacity to generate, reason with and critically evaluate novel suppositions or imaginary scenarios. It is about thinking, problem solving, inventing and reinventing and flexing one's imaginative muscles. As such, the creative process involves risk, uncertainty, change, challenge and criticality.*

In the UK, the Qualifications and Curriculum Authority (QCA, 2005, a, b) has devised a framework for creativity in primary education. Elements include facilitating children in

- posing questions

- making connections

- being imaginative

- exploring options

- engaging in critical reflection/evaluation.

Drama can take many forms and ranges along a continuum encompassing a wide variety of practices ranging from the informal to the more formal. Improvisational drama or *process drama* (O'Neill, 1995) or *story drama* (Booth, 1994) as it is also known, is in the centre of the continuum. Through process drama children and teacher improvise and create in response to an issue, a problem or conflict: '…drama is about discovering the unknown, rather than acting out what has already been decided' (DfEE, 1989, p. 81).
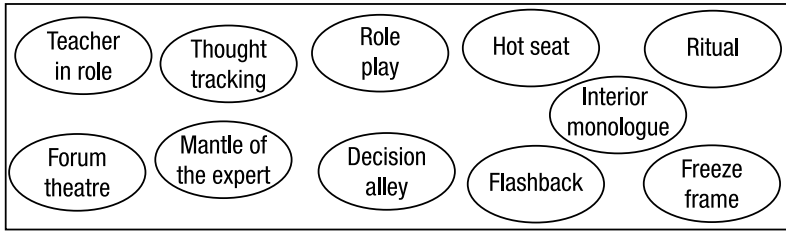
Drama provides an authentic context for the integration of listening, speaking, reading and writing and supports the emotional and imaginative development of the child. It can be highly motivating for children as it provides opportunities for them to collaborate, reflect deeply, explore perspectives and consider alternatives. Cremin (2009, p. 26) argues that drama

> *…offers children the chance to engage creatively in a fictional world making play. Such play, whether in the role play area or in classroom drama, involves making and shaping worlds, investigating issues within them and returning to the real world with more understanding and insight…*

Language plays an important role in process drama. Employing a range of drama conventions (see figure 8.1), the teacher can use it in a multiplicity of ways to support literacy in its broadest sense. In reading workshops, as outlined earlier, these conventions can help children to 'dig down into the substrata of texts, increase their involvement and insight, and enhance their related written work, often undertaken in role' (Cremin, 2009, p. 27). Drama can be used during literacy time within reading workshops: before reading to prepare the ground for reading the text; and also during and after reading to encourage deep engagement with the big ideas in the text as children dig deeper and express a personal response through facial expression, body language, intonation, gesture, mime and movement.

It can also be used to extend learning across the curriculum within a particular thematic unit. It provides an opportunity for children to learn important life skills including how to collaborate, negotiate, to present and defend a point of view, to make connections, to empathise, to question, to adopt a critical stance and to evaluate. It encourages 'possibility thinking' (Craft et al., 2007) as children consider important social issues, dilemmas, confront stereotypes and adopt the kind of critical literacy stances noted in Chapter 2 of this review (e.g. to note that a text (whether oral or written) is never neutral but is designed to inform, entertain, persuade and manipulate, and that literacy may be used as a tool not just for personal empowerment but a tool for empowering the disempowered (see theories of literacy)).

Figure: 8.1: Drama conventions (Cremin, 2009, p. 29)

Teacher in role	Thought tracking	Role play	Hot seat	Ritual
			Interior monologue	
Forum theatre	Mantle of the expert	Decision alley	Flashback	Freeze frame

Drama can also be usefully deployed in preparing children to engage in writing across a range of genres (narratives, poetry, non–fiction), and thereby enhance their writing quality (Cremin, 2006). This can involve 'writing in role', where the child adopts the role of a story character, and identifies with the character on both cognitive and affective levels (McNaughton, 1997). Others (e.g. Crumpler & Schneider, 2002), have reported that writing composed in drama has more depth and detail, as drama becomes a conduit which facilitates a flow of imagination between process and product. Cremin et al. (2006) argue that drama enables children to adopt multiple perspectives as they 'kinaesthetically, orally and physically' generate ideas. In this way drama acts almost as a rehearsal for children by nudging ideas into consciousness, and as a scaffold before facing the blank page and committing ideas to paper. Cremin et al. (2006) note two approaches linking drama and writing and are more supportive of the second:

- Deciding on a specific genre first, and then using drama to facilitate development of writing in the genre (see table 8.1).

- Beginning with a drama in response to reading, and then 'seizing the moment' to write about the situations encountered. This approach allows children to select the form, content and viewpoint of their writing, giving them more ownership and control over the process.

Table 8.1: Making connections between drama and specific genres of writing (Cremin, 2009, p. 36)

Writing Genre	Drama Conventions
Recount	Storytelling in role TV interview recounting an event
Diary	Thought tracking/interior monolgue
Report	Freeze-frame Hot-seating
Poetry	Group structure on theme
Instructions (procedural)	Group improvisation Freeze-frames of process
Story structure	Freeze-frame significant events as a storyboard Improvised flashback/flash-forward
Explanation	Documentary improvisation by e.g. being a scientist/historian…
Dialogues	Role-plays Interviews
Notes/minutes	Hot-seating in role Formal meetings
Persuasive/ discursive	Decision alley Formal meetings
Advertisement	Group improvisation - spontaneous or planned Freeze-frames brought to life
Play script	Role-play in pairs for conversation Small group play-making

Positive outcomes associated with an emphasis on process drama as a precursor to writing include experiencing presence of tension, full affective engagement, time for incubation, a strong sense of stance and purpose gained through role adoption, and a greater willingness to engage in revision and expansion of writing at a later time (Cremin et al., 2006). This process can also provide ideas for future writing and put the emphasis on the creative process rather than on a particular form of writing.

In sum, teachers act as creative role models, readers, writers, role players and oral language artists in the classroom (Cremin et al., 2006), modeling creativity in action, creating a culture of curiosity, possibility and purpose as children are supported to be autonomous agentic beings. Schools and classrooms become places where children

have opportunities to be readers, writers, thinkers, talkers and inventors.

SECOND LANGUAGE LEARNING AND CURRICULUM ACCESS

Recognising the child's L1 or heritage language

Many researchers agree on the importance of the first language (L1) or mother tongue, in the development of a child's literacy (Cummins, 2000, Gersten & Baker, 2000; Fillmore & Snow, 2000). Oral skills acquired from infancy ought to be maintained and developed. First language (L1) is part of each child's identity (NCCA, 2006). L1 is also a human right and protected by the UN Convention on the Rights of the Child (Article 29, 30). English language learners with strong L1 skills are more likely to achieve parity with native-English-speaking peers than are those with weak native-language skills (Cummins, 2000; Thomas & Collier, 2002). From a theoretical perspective, Cummins developed an interdependence hypothesis which states that the underlying skills in L1 support the development of language and literacy skills in L2 (Cummins, 2000). This common underlying proficiency mechanism supports the transfer of cognitive skills from L1 to L2.

Conversational language proficiency is different from academic language proficiency (Cummins, 1981, 2000). Cummins describes the acquisition of basic interpersonal communicative Skills (BICS) as occurring within two years of exposure to English. Cognitive academic language proficiency (CALP) may take between five to seven years if L2 children are to acquire to the same level as their English-as-a-mother-tongue peers. However caution is needed when assuming conversational language is less sophisticated or cognitively less demanding than academic language. Misconceptions and assumptions that conversational language is always less cognitively demanding and/or always easy to understand and use need to be

highlighted (Leung & Creese, 2010). The distinction between basic interpersonal communication skills and cognitive academic language proficiency may be a more fragile distinction when we consider that language is rarely completely 'decontextualised' and that learners continue to use their linguistic strengths and their own distinct frames of reference to communicate meaningfully. Approaches which support learners to 'recontextualise' in the classroom include: learning about each child's language(s) and life experience, embedding new learning in *doing and talking* so the child can relate to this, and ensuring classroom activities are *relevant and purposeful* (Aukerman, 2007).

Language learning, learning through language and learning about language

Literacy in a second language develops globally and in a variety of rich contexts. Teachers of EAL children need to create real and meaningful purposes for communication in the language of instruction. Children construct meaning through reading and writing. This is best achieved in a risk free environment (Gibbons, 2002; Krashen, 1982, 2009). A safe, welcoming classroom environment with minimal anxiety about performing in a second language is essential for EAL children to learn (Krashen, 2003; Pappamihiel, 2002; Verplaetse, 2008).

Social collaboration (interpersonal skills): social interaction whereby the English Language Learner experiences everyday language in authentic contexts serves as a natural foundation for development of thought and language. This fosters the development of conversational and academic English (Vygotsky, 1978; Wong-Fillmore & Snow, 2005). Children's learning is inseparable from the interactions between teachers and learners. This reflects a socio-cultural view of learning.

Learning as meaning-making (based on authentic experiences): Gibbons (2002) reiterates three interrelated areas of language development: a focus on *meaning*, a focus on language *forms* and a focus on *use*. There is general acceptance that the integration of language and content is learned through meaningful use in a variety of contexts. This represents a functional approach to language and places the focus on language as the medium of learning rather than something separate from content. Thematic learning and integrating topics or themes across the curriculum provide opportunities for the English language learner to make cross-curricular links.

By supporting language and curriculum learning in an integrated way, there is a dual content-language focus and this facilitates language comprehension and language learning (Gibbons, 2002). The teacher provides 'scaffolding' to the learner which is responsive to the particular demands of the language needed to participate in the learning activity and this is critical for success (Gibbons, 2002).

Krashen (1982, 2009) argued that second language learners must have access to comprehensible input that is just beyond their current level of competence. This notion of 'comprehensible input' is also applied to academic learning in a broader context. Therefore the quality and the nature of the input play a major role in learning a second language (Wong Fillmore & Valadez, 1986). Learners need progressively challenging tasks so they can develop thinking skills. They must also have opportunities to produce output for meaningful purposes (Swain, 1995).

LANGUAGE AWARENESS

Explicit attention to linguistic form and function is essential to second language learning (Gass, 1997; Schleppegrell, 2004; Swain, 1995). Children who are acquiring two languages simultaneously or who are developing their primary language as they learn a second

language may be better understood as dual language learners (Gutiérrez et al., 2010). Capturing the diversity of this group of learners as language and literacy learners is important for teachers to understand how their everyday literacy practices unfold. Evaluations of studies of early literacy learning for all children have identified gaps in knowledge of literacy practice as they apply to dual language learners. The implicit message could appear to be: if it works for mainstream children, it must work for English language learners and dual language learners. Effective pedagogy and practice for this specific group of language learners is not identified in the NELP (2008). Research has already identified the importance of oral language development in the home language as support for understanding of how language functions in the second language (L2) (Dickinson, McCabe, Clark-Chiarelli & Wolf, 2004). The National Literacy Panel of Language Minority Children and Youth identified oral language proficiency as a key component of more advanced reading skills (August & Shanahan, 2006).

TEACHING APPROACHES

In response to the increasing pluri-lingualism throughout Europe and the concerns of individual countries, a European Core Curriculum for Mainstreamed Second Language Teacher Education is being developed. Ireland is currently not a participant in this European Comenius project. However the teacher competencies outlined in the European core curriculum would be a useful resource for teachers of EAL children in Ireland (Leung, 2011). The foundation of this curriculum is content and language integrated learning (CLIL).

Content and language integrated learning (CLIL)

Content and language integrated learning (CLIL) is an approach to language learning where the target language is used as the medium to teach both content and language. Learners gain knowledge of the

curriculum subject while simultaneously learning and using the second language. While the main focus of the typical CLIL lesson is on content, the target language is used as the medium through which children engage with the content. This process enables the attainment of both content objectives and language objectives in the same lesson. This approach reflects the key principles of EAL teaching. There are similarities with content-based instruction, task-based instruction and teaching through the medium of another language (Coyle et al., 2010). The key principles of CLIL are

- identify and communicate the content and language objectives

- provide comprehensible input: build background

- enable language production: structure opportunities for oral practice with language and content

- assess for content and language understanding: provide re-teaching and intervention when necessary.

Content and language integrated learning can be conceptualised in terms of 'four Cs':

- *Content* is the subject or the CLIL theme: it is more than knowledge acquisition, it is the knowledge, skills and understanding the teachers wish learners to access.

- *Communication:* this is described as learning to use language and using language to learn. CLIL integrates content learning and language learning so that both are important.

- *Cognition:* engagement in higher-order thinking and understanding, problem-solving and accepting challenges and reflecting on them. CLIL allows individuals to construct their own understandings and be challenged.

- *Culture:* in the CLIL classroom, culture is an over-arching theme, using appropriate and authentic materials. Intercultural cross curricular links can contribute to deeper understanding of differences and similarities between cultures.

In addition, a structured approach to lesson planning which involves four steps is recommended: considering content; connecting content and cognition; communication – defining language learning and using; developing cultural awareness and opportunities (Coyle et al, 2010).

The document, *Intercultural Education in the Primary School* (Tormey, 2005) expands on the features of an intercultural approach to teaching and learning in the primary school curriculum, and is therefore consistent with the inter-cultural aspects of CLIL.

There is agreement in the literature that for most EAL learners, the regular classroom offers the best opportunity to learn a second language. For most children, the mainstream classroom is the natural context to focus on aspects of the second language most relevant to accessing the curriculum (Gibbons, 2002).

In relation to reading instruction and EAL learners, it may be useful to refer to the components of literacy as outlined by Freebody & Luke (1990) whereby readers take on different roles as they read: the role of *code breaker, text participant, text user* and *text analyst*. As a *code breaker*, the reader decodes text, but this is not sufficient for reading. As a *text participant* the reader connects with his own background knowledge–including knowledge of the world–and his/her own cultural knowledge. As a *text user* the reader begins to participate in social activities in which written text plays a major part. As *text analyst*, the reader begins to critically analyse the particular view of the world as it is presented and to question what is written.

It is important to note that each of these roles is integral to reading, but they do not represent a developmental sequence of reading. For this reason, each role can be developed *simultaneously* at every level of reading. For example focusing on code breaking for EAL learners is not sufficient. A rich reading environment is important for EAL learners, who may need more explicit teaching on a range of strategies to support their development as readers (Gibbons, 2002). Such support should extend to all phases in the reading process – i.e. before, during and after reading. The teaching and assessment activities corresponding to these stages (and outlined elsewhere in this report) are especially relevant in addressing the learning needs of EAL learners.

SUMMARY

Inquiry-based learning is highlighted as a model that can be deployed in teaching literacy across the curriculum. An example of an inquiry-based model is the Seeds of Science/Roots of Reading programme. The programme seeks to capitalise on the development of cognitive processes that are common to both reading and science. These include making predictions, activating prior knowledge, making connections and drawing inferences. Text is used to support investigation. Vocabulary is presented in a multi-modal fashion, with a strong emphasis on conceptual development through discourse.

The CORI model is another key example of an inquiry-based model which seeks to teach critical science concepts while also attending to reading strategies, child choice, intrinsic motivation, interest and self-efficacy. The model involves hands-on experiences and collaboration between children.

Literacy also involves opportunities for creativity. Activities such as reading, dramatic play and writing can be used to foster creative skills. Cremin (2006) has demonstrated how drama can provide

children with a strong entry point into creative writing. For example, children can adopt the roles of story characters, where they identify both the cognitive and affective dimensions of the characters. Another effective approach is writing composed in drama, where children move seamlessly from writing into drama and back out again.

The literature shows that the following broad principles support the development of literacy in children for whom English is a second language: oral language development in the context of social interactions, where interpersonal skills develop; meaningful use of language in a variety of literacy contexts; and engagement in comprehension strategies that build oral language discourse skills. Content and language-integrated learning has been identified as a useful approach for developing the language and literacy abilities of EAL learners.

C H A P T E R   9 :

C O N C L U S I O N   A N D

S Y N T H E S I S   O F   K E Y

I M P L I C A T I O N S

Literacy learning is developmental, constructivist and incremental in nature and is embedded within cultural and community practices (Gillen & Hall, 2003). In line with recent research, the literacy framework underpinning the English curriculum should be balanced (e.g. Pressley, 2006) – with adequate and appropriate attention to the key literacy skills outlined earlier. When these skills are presented in purposeful and authentic contexts, based on children's assessed needs and stages of development, by teachers familiar with a repertoire of developmentally appropriate pedagogical approaches and deep levels of content knowledge (Shulman, 1987; IRA, 2010), children are more likely to acquire and use literacy strategies, develop positive dispositions towards literacy and attain higher levels of engagement and motivation (Guthrie & Wigfield, 1997; Kennedy, 2008) creativity and agency (Jeffrey & Craft, 2004). The balanced literacy framework should be underpinned by a broad definition and conceptualisation of literacy and informed by a range of theoretical perspectives. Therefore, links between definitions, theoretical perspectives, pedagogy and assessment in the inclusive classroom and the role of parents in developing literacy should be made transparent.

CONCLUSIONS

Defining literacy

1. It is important to espouse a broad vision of literacy, which encompasses the cognitive, affective, socio-cultural, cultural-historical, creative and aesthetic dimensions of literacy across the lifespan of the individual.

2. The definitions of literacy in *Aistear* and in *The National Strategy to Improve Literacy and Numeracy Among Children and Young People 2011-2020* are consistent with the literature in that they encompass a broad vision of literacy along several key dimensions, including reading, writing, communication and oral language, in print, multi-modal and digital formats.

Theoretical perspectives

3. Major theories of literacy and learning need to be taken into account in devising a revised curriculum. These include cognitive, metacognitive, constructivist, socio-constructivist, cognitive-apprenticeship, socio-cultural/socio-historic, socio-linguistic, multi-modality, critical theory and digital literacy theories of learning, as well as theories of motivation, engagement and self-efficacy as they relate to literacy.

4. The field has had three major paradigm shifts (behaviourist to cognitive to socio-cultural). Socio-cultural/socio-historic is currently the dominant theory of child learning, and is strongly influential in underpinning the *Aistear* framework.

5. However, in addition to an over-arching theory, the revised curriculum should draw from a range of other theories as well.

Stages of literacy development

6. A comprehensive model of early literacy development during the preschool and early school years strongly supports the view that a range of language and print related skills emerge in a mutually supportive fashion with development in one area promoting and supporting development in others. There is a reciprocal relationship between listening, speaking, reading and writing and development in one supports development in the other. Equally, a difficulty or weakness with one or more of the components will have an impact on the other elements.

7. Language actually begins with gestures and verbal signs. Children develop symbolism in play and then in drawings. Written language, when it develops, is considered to develop from play and drawing. All of this is mediated by speech. It is on the basis of speech that all the other sign systems are created.

8. In early childhood, young children (aged 3 and 4 years) are in the process of developing critical higher mental functions e.g. the ability to memorise, to pay attention, to reason, to think, to imagine. But certain literacy practices are especially effective in terms of supporting children's development of the higher functions, thus suggesting a reciprocal relationship between literacy practices in early education settings and the development of young children's higher mental functions.

9. While the literature on literacy outlines stage models of development in reading (word identification, fluency) and spelling, such models are not available for other aspects of literacy, including oral language (after the initial stages of development – up to about age 5), vocabulary, comprehension and writing/ composition. This is because development tends to be recursive rather than linear in these less-constrained aspects of literacy.

Literacy pedagogy

10. Key pedagogical practices essential for children's early literacy development include the support of children in their make-believe play in both structured and playful contexts; the engagement of children in storybook reading and discussion; the promotion of children's vocabulary development and the support of children in developing oral and written language.

11. Children's understandings and use of vocabulary, including academic language, must be consciously addressed through their engagement in appropriate experiences designed to promote such language. Many of these features of academic language emerge in extended discourse such as narratives or explanations. Early childhood educators must engage children in challenging talk as opportunities arise both in informal contexts and in the more formal planned learning experiences such as storybook discussion.

12. The amount and quality of language interactions with caregivers/ teachers, the quality of instruction, and the use of one-to-one or small-group instruction are all important for the development of literacy skills, strategies and dispositions in early years settings.

13. Parents' efforts to promote language and literacy can make a considerable difference to children's development and to preparing them for the demands of school. What parents do with children in relation to literacy, and crucially relational aspects such as the nature and warmth of the interactions with children in contexts such as storybook reading, are key variables contributing to children's literacy development.

14. Between the ages of 3 to 8 years there are at least two transition points at which great care is needed in terms of literacy practices. First, as children transition from home to preschool they may experience some discontinuities in literacy practices. Then when children transition from preschool to infant classes in the primary school practices may also differ greatly. Attention to issues of continuity in pedagogy during these transitions is crucial. Optimal engagement by children can be promoted if continuity issues are addressed by educators. In addition, parental education programmes can play a key role in promoting continuity and enabling positive transitions.

15. Instruction in phonological awareness and phonemic awareness must be child appropriate. Time spent on word play, nursery rhymes, riddles, and general exposure to storybooks develops phonological awareness including phonemic awareness. Some children may require more formal instruction in phonemic awareness, reflecting variation in children's early literacy instructional needs.

16. Literacy instruction in the early years should include code-based skills (e.g. phonics and spelling instruction) within broader authentic contexts in which children engage in extensive reading and writing for meaning.

17. Children should be taught a broad range of decoding strategies, including phonics, semantics and syntactic cues and how to combine them to identify and verify unfamiliar words. Phonics instruction should be systematic, multi-sensory, and appropriate to the stage of development and needs of children.

18. In supporting young children's development as fluent readers, attention should be given to accuracy, expression, phrasing, smoothness and pace (rate). Texts used should be at children's independent and instructional levels.

19. Good readers adopt a repertoire of strategies when constructing meaning from text. A key goal of any reading programme is to develop and foster a wide range of comprehension strategies with all children. The development of reading comprehension should be developed simultaneously with decoding skills.

20. Key comprehension strategies include: activation and connection with relevant prior knowledge sources; generating and answering both teacher and self-generated questions; using monitoring, clarifying and fix-up strategies; creating mental images when reading; inferencing; and using graphic organisers and summarisation.

21. Comprehension strategies can be developed using the gradual release of responsibility model. This includes explicit instruction, demonstrating and modelling of the strategy by the teacher, followed by collaborative and extensive guided practice where the teacher facilitates and scaffolds children's learning; and finally

children should engage in independent practice of, and reflection on, the target strategy.

22. Strategies may be introduced singly or in combination. Multiple strategy models include, reciprocal teaching, concept-oriented reading instruction (CORI); transactional strategy instruction (TSI), informed strategies for learning and literature circles.

23. Teachers should include a wide range of genres in teaching reading and writing and should explicitly teach the structure of both narrative and informational texts.

24. Comprehension questions should be both teacher-initiated and self-generated by children. Both lower-order and higher-order thinking should be fostered to develop deep engagement with the text and promote high-level group and class discussions.

25. Teachers should carefully cultivate a collaborative classroom learning ecology which fosters motivation and engagement with texts and creates authentic contexts to develop reading.

26. Writing is a creative personal act. It should be taught as a process using a writing workshop approach to instruction. Creativity needs time to flourish. Therefore, a predictable time for a daily writing workshop should be established with choice and control of topic given to the child.

27. Writing is a developmental process and children vary in the speed at which they progress on key skills, processes and crafts.

28. Reading and writing are reciprocal processes. Instruction in one supports development in the other. Children should be reading in the genre in which they are expected to write.

29. Children should be taught to write in a wide range of genres and through mini-lessons should learn the craft, text structure and language register appropriate to each genre.

30. Emphasis should be on the craft of writing (i.e. word choice and expression) and children should be facilitated to discover their own voice/style of writing.

31. Children should be explicitly taught the processes of writing according to their stage of development: how to choose a topic, how to develop a first draft of writing, how to revise, edit, proofread and publish a piece of writing.

32. The mechanics of writing i.e. the constrained skills of spelling, grammar and punctuation, should be acquired within the context of children's own writing as they demonstrate a need/readiness for particular skills. These skills can be taught in small-group mini-lessons.

33. The writing workshop should develop children's self-esteem/confidence through participation in daily conferencing with teachers and peers, through presenting their work in daily share sessions and through publishing selected final drafts of writing on a regular basis.

34. Digital literacy pedagogies in early years classrooms should enable children to develop the skills, knowledge and understanding required in order to analyse, produce, and make meaning from multimodal and multimedia texts.

35. It is important to infuse and integrate digital technologies into the literacy curriculum rather than viewing them as a supplement.

36. Film and multimodal texts are central to children's lives and therefore digital literacy work in the early years classroom should

focus on the development of multi-literacies and media production.

37. Web 2.0 offers possibilities in the early years classroom where children can become both producers and consumers of these digital technologies. Possibilities include the use of social networking sites, including blogging and Twitter.

38. Multimedia electronic books offer the potential to support the development of literacy with young children. They offer various digitised supports such as: text-to-speech functionality; audio output; images; animations; interactive elements and activities; and the presence of an electronic reading partner to model and support the development of reading fluency.

39. Commercially-produced electronic text story books may supplement the balanced literacy framework within the literacy programme. Electronic texts may support understanding of story structure; increase motivation and engagement and the enjoyment of the story; support narrative comprehension and may supplement rather than replace adult read aloud.

40. Digital technologies can support writing development in a number of key areas, such as experimentation and expression with regard to the generation and construction of a message or story; the encoding or transcription of that message or story; and the process of producing the message or story (planning, organising, revising and reviewing strategies).

Contexts for literacy teaching

41. A large achievement gap in literacy exists between children in disadvantaged schools and their more advantaged peers. This is an international phenomenon and is related to the gap between rich and poor in society.

42. Research indicates that the gap can be narrowed significantly when a number of conditions are in place which create the synergy necessary for change to happen.

    These conditions include:

    a. Adequate time for children to engage in intensive literacy learning (ranging from 90 minutes to 2 ½ to 3 hours).

    b. A balanced literacy framework that includes adequate attention to all the major aspects of literacy within authentic literacy contexts.

    c. Flexible and dynamic grouping of children, informed by ongoing formative assessments.

    d. Integration of learning support and classroom teaching, with support teachers working in classrooms.

    e. Classroom environments with large numbers of real books matched to children's stages of development and interest.

    f. A meaning-based approach to instruction that promotes engagement in higher-order literacy skills (i.e. both unconstrained skills such as oral language discourse, vocabulary, comprehension and compositional writing (fiction and non-fiction) which are taught along with constrained skills such as phonemic awareness, decoding, spelling and fluency).

    g. A focus on instruction that is strategy-based, with teacher modelling, scaffolding using a gradual release of responsibility to children, and an emphasis on the metacognitive aspects of learning (i.e. when, how and why a particular strategy should be used).

    h. An emphasis on motivating children to engage in meaningful literacy activities on which they encounter success as well as challenge.

i.   High teacher expectations for all children.

j.   The sharing of assessment data by all school staff at several points in the school year to set targets and improve teaching.

k.   Strong links between home and school designed to support literacy development.

l.   A high level of on-going customised professional development and non-evaluative feedback for participating teachers (often over many years).

m. A school vision for literacy which all teachers develop, espouse and take responsibility for making a reality.

43. In the current literature there is a trend away from providing specific pedagogies for children with special educational needs, towards providing more intensive focused literacy teaching for children with special educational needs. These include the notion of a 'continua of teaching approaches' that emphasise high levels of practice to mastery, more examples of a concept, greater error-free learning and more structured approaches to teaching phonological processes.

44. The two areas of SEN which it is argued do require distinctive group-specific pedagogy are autistic spectrum disorders (ASD) and attention-deficit/hyperactivity disorder (AD/HD).

45. The three-tiered approach to assessment which was introduced through the EPSEN Act (2004) ensures that children receive supplementary teaching to address any deficit in their learning. Should there be no progress noted the child is then referred for a formal assessment. If this results in a diagnosis of SEN an IEP must be developed for the child.

46. Children with special educational needs tend to have to devote large amounts of attention and working memory during writing to the control of lower level processes such as handwriting. This leaves little capacity for higher-level processes such as the generation of ideas, vocabulary selection, monitoring the progress of mental plans and revising text against these plans. One solution proposed is to make the process of handwriting automatic or to use technology.

47. There is agreement about the importance of the first language (L1) or mother tongue, in the development of a child's language and literacy in another language. Theoretical models support the transfer of skills and competence which already exists in L1 to L2. Where possible, opportunities should be provided in the classroom for EAL learners to use this existing knowledge.

48. The development of cognitive academic language proficiency or CALP (Cummins 1996, 2000) is a priority for teaching literacy skills to EAL children.

49. Language support for the EAL learner needs a specific focus on three interrelated areas of language development: meaning, language forms and language use. Communicative approaches in the classroom provide a tool for learning and also a bridge into literacy learning.

50. The literature shows that the pedagogies suitable for children in general are also suitable for children for whom English is an additional language.

51. A theory of literacy pedagogy whereby the roles of code-breaker, text user, text analyst and text critic can be developed at every level of reading is useful (Luke & Freebody, 1990). Such an approach offers a broad conceptualisation of literacy success for

EAL learners and suggests that over-reliance on one aspect of literacy, such as 'code breaking' (teaching phonological skills) is inappropriate and insufficient.

52. Well-planned and structured reading lessons which involve the reader before, during and after reading can integrate many types of reading skills. Reading and writing methodologies which are appropriate for EAL learners also benefit all learners.

53. There is general acceptance that the integration of language and content is learned through meaningful use in a variety of contexts. Programmes such as content and language integrated learning (CLIL) may be useful in working with EAL learners in that it enables the attainment of content and language objectives in the same lesson, while also taking children's cultures into account.

Assessment of literacy

54. Aspects of literacy that should be assessed in early childhood settings are oral language, concepts about print, dispositions (including motivation and engagement), vocabulary/academic language, alphabetic knowledge, reading fluency, comprehension, spelling and writing. The importance of recording outcomes arising from informal assessments in these aspects of literacy was stressed, and the value of recorded outcomes in planning instruction was noted.

55. Assessing early literacy learning involves a number of processes. These include observing and empathising; communicating; interviewing; documenting and reflecting on learning; compiling portfolios; and developing narratives about learning. Often, these processes need to be engaged in concurrently and they are best undertaken in authentic contexts. In relation to assessing language

development in early education settings, such contexts may also include informal discussions, socio-dramatic/make-believe play and dialogic storytelling.

56. On a day-to-day basis highly interactive and dynamic interactions between educator and child offer the best context within which to assess a child's understandings of literacy and text.

57. As children move into formal instruction of literacy, additional assessment tools such as interviews, running records, miscue analysis, oral retelling, comprehension questions, cloze assessment, reading and writing conferences, and writing portfolios should be deployed. This work can be supported through the use of scoring rubrics and other recording tools.

58. In assessing reading, assessment should focus on both process (e.g. children's understanding and use of strategies) and product (their understanding of the text at differing levels of sophistication).

59. In assessing writing, teachers should plan mini-lessons based on children's needs determined by a range of formative assessment data gathered through conferences with the child, examination of writing samples, rating of writing samples using checklists and rubrics and through portfolios developed throughout the year.

60. A number of tools can be used to summarise overall performance on reading and writing, including curriculum profiles, criterion scales and core standards frameworks.

Oral language

61. A distinction can be made between oral language as a skill and oral language as a context for learning and practising reading skills. The former highlights associations between oral language and basic word reading processes, such as phonemic awareness and

word reading. The second highlights ways in which oral language can be harnessed in supporting children to deploy reading strategies and engage in perspective-taking and reasoning.

62. The effects of oral language development in the preschool and infant classes may not impact on children's reading comprehension until they are in fourth class or later. This is because of the key role that decoding skills and understanding of individual word meanings plays in early reading development. Nevertheless, it is critically important to teach reading comprehension strategies using oral language discourse from preschool onwards.

63. Features of effective literacy instruction that involve oral language include modelling by the teacher, direct explanation of reading comprehension strategies, marking (where the teacher responds to a child's question or answer by referring to a particular part of the text), and verifying and clarifying children's understandings.

64. A number of specific discussion-based strategies that can support the development of reading comprehension and oral language include: reciprocal teaching, collaborative reasoning, questioning the author, and accountable talk.

65. Reading and writing share several common cognitive processes. As with reading development, oral language can be deployed across multiple components of the writing process not only to improve writing, but to enhance oral language as well.

Literacy across the curriculum

66. Instructional approaches that employ inquiry-based learning can create classroom learning communities; enhance reading development across the curriculum and create deep and powerful learning opportunities across disciplinary subjects.

67. Inquiry-based models of reading, such as CORI or Seeds of Science/Roots of Reading provide rich contexts for children to acquire, clarify, apply and critically evaluate information related to themes or topics which are authentic and situationally or personally relevant.

68. Drama as an art form can make a significant contribution to children's literacy development. It provides opportunities for the nurturing of the aesthetic and creative dimensions of literacy as children respond in a multimodal way to high-quality texts in reading workshops and create their own texts within writing workshops.

69. Drama can be used during literacy time within reading workshops, before reading to prepare the ground for reading the text and also during and after reading, encouraging deep engagement with the big ideas in the text as children dig deeper and express a personal response through facial expression, body language, intonation, gesture, mime and movement.

70. Drama can also be used to extend learning across the curriculum within a particular thematic unit. It provides an opportunity for children to learn important life skills including how to collaborate, negotiate, to present and defend a point of view, to make connections, to empathise, to question, to adopt a critical stance and to evaluate.

71. Creativity in children's responses to reading and in their writing can be enhanced using a number of strategies including allocating sufficient time, using open-ended tasks, allowing children choice and control, and encouraging peer collaboration.

KEY IMPLICATIONS FOR FUTURE CURRICULUM DEVELOPMENT

1. The curriculum should be founded on a broad definition of literacy which acknowledges that literacy develops across the life span of the individual. It is crucial to conceptualise literacy to include reading, writing, communication and oral language in both print-based, multimodal and digitised formats.

2. The curriculum should be informed by a broad range of theoretical perspectives to reflect current research in the field of literacy.

3. The curriculum should recognise that literacy learning is developmental, constructivist and incremental in nature and is embedded within cultural and community practices. Where available, stage models of development should be outlined. For unconstrained skills such as oral language, vocabulary, comprehension and writing/composition, development should be conceptualised in terms of deeper processing involving texts (oral and written) of increasing length and linguistic complexity.

4. The curriculum should be underpinned by a research-based, cognitively-challenging balanced literacy framework. This includes:

   • explicit and systematic attention to skills and strategies (phonological/phonemic awareness, phonics, word-identification, fluency, vocabulary, comprehension, and writing)

   • the teaching of skills and strategies within a range of authentic and highly meaningful contexts (shared, guided, independent reading and writing) for real purposes and varied audiences

   • the use of a variety of high-quality texts in a range of genres to include: narrative, informational, multi-modal and digital texts

- the use of a range of developmentally appropriate methodologies; given that there is no one method for teaching literacy teachers should be equipped with a repertoire of pedagogies from which they can select

- the ongoing use of formative and summative assessment practices to address children's needs and stages of development in order to facilitate differentiation and acceleration of children's literacy development.

5. Effective literacy instruction should include attention to the cognitive, metacognitive and affective dimensions of literacy.

6. The curriculum should emphasise the importance of developing higher- and lower-order skills and strategies in parallel with one another.

7. The curriculum should recognise the long-term contributions of unconstrained skills (e.g. vocabulary, comprehension, writing-composition) to later literacy development.

8. Schools and teachers should create collaborative learning environments with a strong emphasis on cultivating reading and writing as life-long habits. Such environments are crucial to developing children as readers, writers and thinkers and creates the conditions for motivation, engagement, self-efficacy, agency, persistence, and creativity to flourish.

9. The curriculum should recognise the key role of parents in contributing to children's literacy development and should provide guidance on how they may be supported to do so.

10. Assessment in the literacy curriculum should be built on a framework that includes the purpose and uses of reading and writing, key structures, and relationships between readers and writers.

11. Professional development should be an ongoing process and should be embedded within professional learning communities within schools. Professional learning communities help to create a shared vision and collective responsibility for the development of a balanced literacy framework across the school. The knowledgeable teacher who has strong pedagogical content knowledge is critical to ensuring all children reach their potential in literacy.

ADDRESSING CHALLENGES

The implementation of a research-based balanced literacy framework within the Irish context poses significant challenges for the system. Concerns around literacy teaching in Ireland (DES, 2005, 2010; NCCA, 2005) include:

- inadequate provision of time for literacy

- over-attention to constrained skills taught out of context

- limited attention to higher-order thinking skills and the critique of texts

- difficulty implementing a process approach to writing

- difficulty addressing the imaginative and aesthetic dimensions of literacy

- difficulty addressing oral language development and using oral language to develop reading and writing skills

- the need for greater cohesion between learning support and classroom programmes for literacy

- adequate differentiation of instruction

- the need for a greater range of assessment tools to be used to gather data to inform the planning, teaching and learning cycle

- the need for useful whole school plans in literacy

- teacher knowledge around literacy development and teaching

When we consider these concerns about the quality of literacy teaching and learning in the Irish context in the light of the research base presented in this document we can see that there are many aspects in which teachers require support. While the provision of extended time for literacy within *Literacy and Numeracy for Learning and Life: The National Strategy to Improve Literacy and Numeracy among Children and Young People* (DES, 2011), is to be welcomed, it must be noted that, allocating the time is one thing but how that time is spent is equally important. Teachers will need substantial support to use this time well and to shift their practice to a research-based approach to literacy development. The provision and support for make-believe play, along the lines recommended in *Aistear*, will need considerable development in all early education settings. A clear articulation of the interrelationships between the play curriculum and the plans for children's early literacy development is important in all contexts also. Teachers and schools should be supported in critiquing their school plan, in evaluating how well it aligns with the research on balanced literacy instruction, in creating a professional development plan which prioritises their needs and in accessing customised professional development that can support them as they begin the process of designing and implementing a coherent, systematic cognitively challenging balanced literacy framework across the school. Schools will be on a continuum and as such will require ongoing differentiated professional development.

G LOSSARY

Academic discourse/language—a term that arose in the literature about two decades ago. It is generally characterised as the language used in schools, in writing and in public places (Snow & Uccelli, 2009). As such it is a central concern of educators and essential for children's success within the educational system. Academic language is made up of many discrete features. A current view is that academic language skills are part of a continuum of language skill development and as such are related to earlier language skills. Young children's conversational skills and their skills in relation to extended discourse (including literate discourse) are now considered as foundational in relation to the later development of their academic language skills.

Blend (vb.)—to draw individual sounds together to pronounce a word, e.g. s–n–a–p, blended together, reads *snap*.

Cluster—two (or three) letters making two (or three) sounds, e.g. the first three letters of 'straight' are a consonant cluster.

Constrained skills—skills such as early print concepts, letter name knowledge, phonemic awareness and oral reading fluency are constrained to small sets of knowledge that are mastered in relatively brief periods of development. They develop from nonexistent to high or ceiling levels during childhood. Constrained skills influence a narrow range of skills (e.g. letter name knowledge or early print concepts influence decoding grapheme–phoneme relations).

Dialogic reading—a particular kind of shared reading wherein the adult specifically encourages the child to participate actively in the experience by eliciting comments, adapting feedback and adapting to the child's developing linguistic skills. (Cunningham & Zibulsky, 2011, p. 397).

Digital literacies—the skills, knowledge and understanding required to analyse, produce and make meaning with multimodal texts that are

disseminated through electronic media, such as computers, and televisions, console games, handheld consoles, mobile phones and touch screen technologies such as the iPad.

Digraph—two letters which together make one sound, e.g. *sh, ch, th, ph, ee, oa*.

Disposition—regarded as 'relatively enduring habits of mind and action, or tendencies to respond to categories of experience across classes of situations' (Katz & Chard, 1992, p. 30). They dispose learners to interpret, edit and respond to learning opportunities in characteristic ways (Carr, 1999). Desirable dispositions might include perseverance, risk-taking and curiosity. Helplessness is an example of an undesirable disposition.

Emergent literacy—the skills, knowledge, and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing and the environments that support these developments (Whitehurst & Lonigan, 1999).

Grapheme—a letter or a group of letters representing one sound, e.g. *sh, ch, igh, ough* (as in 'though').

Grapheme-phoneme correspondences—the relationship between sounds and the letters which represent those sounds (GPC).

Higher mental functions—deliberate and intentional human behaviours such as remembering, reasoning, thinking, imagining, attending to. Early childhood is the period in which these functions are developed An essential characteristics of higher mental functions is their deliberate nature. Also characteristic is their purposefulness. They are important since they enable learners to control the processes and outcomes of their learning. Higher mental functions are developed in a social and cultural context with other people. Their development is also assisted by the use of cultural tools such as

literacy. They can be contrasted with lower mental functions which are the mental functions that babies have at birth, e.g. crying, grasping. Based on Bodrova & Leong (2006).

Mature play—play that means play which is characterised by the child's use of objects-substitutes that may bear very little if any resemblance to the objects they symbolise: they use a stick as a horse or a box as a train car. In a similar way, children use gestures to represent actions with real or imaginary objects. Another characteristic of mature play is the child's ability to take on and sustain a specific role by consistently engaging in actions, speech and interactions that fit this particular character. The more mature the play, the richer are the roles and relationships between them. Another sign of mature play is the child's ability to follow the rules associated with the pretend scenario in general (playing hospital versus playing school) and with a chosen character in particular (playing a doctor versus playing a teacher). Yet another characteristic of mature play is the high quality (sic) of play scenarios that often integrate many themes and span the time of several days or even weeks (Bodrova 2008, p. 364).

Mnemonic—a device for memorising and recalling something, such as a snake shaped like the letter 'S'.

Multimodality—approaches to representation that assume communication and meaning-making are about more than just language. Multimodality takes into account the many different modes in printed and on-screen texts (such as image, layout, colour and language) and also the different modes that people use as they engage in face-to-face interaction (such as gesture, gaze, artefacts and language), and considers how these modes work together to create meanings in a 'multimodal ensemble' (Flewitt, in press).

New literacies—the skills strategies and dispositions necessary to successfully use and adapt to the rapidly changing information and communication technologies and contexts that continually emerge in our world and influence all areas of our personal and professional lives. These new literacies allow us to use the internet and other ICT to identify important questions, navigate to locate information, critically evaluate the usefulness of that information, synthesise information to solve problems and communicate the solution to others. (Source Leu, D. J., Leu, D. D., & Coiro, J. (2004). *Teaching with the internet-12: New literacies for new times.* Norwood, MA: Christopher-Gordon.)

Phonemes—the phonological units of speech that make a difference to meaning. Thus, the spoken word rope is comprised of three phonemes: /r/, /o/, and /p/. It differs by only one phoneme from each of the spoken words, *soap, rode* and *rip*.

Phonemic awareness—the insight that every spoken word can be conceived as a sequence of phonemes. Because phonemes are the units of sound that are represented by the letters of an alphabet, an awareness of phonemes is key to understanding the logic of the alphabetic principle and thus to the *learnability* of phonics and spelling.

Phonics—instructional practices that emphasise how spellings are related to speech sounds in systematic ways.

Phonological awareness—a more inclusive term than phonemic awareness and refers to the general ability to attend to the sounds of language as distinct from its meaning. Phonemic awareness generally develops through other, less subtle levels of phonological awareness. Noticing similarities between words in their sounds, enjoying rhymes, counting syllables, and so forth are indications of such 'metaphonological' skill.

Quasi–experimental—a design in which groups are not created randomly. For a quasi-experimental design to be rigorous, the intervention and comparison groups must be similar, demonstrating baseline equivalence on observed characteristics, before the intervention is started. Strong quasi-experimental designs will, at best, be rated as *meets evidence standards with reservations* (Shanahan et al., 2010).

Reading aloud—a reading strategy that includes an adult or skilled reader and a child or group of children reading together. It may or may not introduce conventions of print, new vocabulary, rhyming, discussion of pictures, or include other interactive experiences. Depending on which of these experiences are embedded in the reading experience, terms such *as reading aloud*, (traditional) *shared book reading, parent-child reading, joint book reading,* or *dyadic reading* are used to describe the experience with some degree of specificity. Cunningham & Zibulsky (2011, p. 397).

Segment (vb.) —to split up a word into its individual phonemes in order to spell it, e.g. the word 'cat' has three phonemes: /c/, /a/, /t/.

Sign–using activity—according to Vygotsky (1978, p. 13) this has a number of concrete manifestations, for example drawing pictures, writing, reading, and using number systems.

Socio-dramatic play—pretend play with others.

Split digraph—two letters, which work as a pair, split, to represent one sound, e.g. a-e as in *make* or i-e as in *site*.

Unconstrained skills—skills such as knowledge of vocabulary and syntax are unconstrained by the knowledge to be acquired or by the duration of learning. Developmental trajectories are more uneven than for constrained skills. Unconstrained skills influence a broad range of areas (e.g. vocabulary development is related to linguistic, cognitive and communicative proficiency in wide-ranging ways).

VC,CVC,CCVC—the abbreviations for vowel-consonant, consonant-vowel-consonant, consonant-consonant-vowel-consonant, and are used to describe the order of letters in words, e.g. *am, Sam, slam.*

Weblog (blog)—a frequently updated web site that that contains reverse chronological postings of links to interesting sites and news articles on the internet; usually created and maintained by a single author or authors. Blogs are often focused around a theme and usually include comments from the creator(s) of the site and from readers. (Source: adapted from Leu, D. J., Leu, D. D., & Coiro, J. (2004). *Teaching with the internet-12: New literacies for new times.* Norwood, MA: Christopher-Gordon.)

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A PPENDICES

Appendix A: Multidimensional Fluency Scale (Zutell & Rasinksi, 1991)

Scores of 8 or above can be interpreted as indicating that the child is making good progress in fluency.

Expression and Volume	1. *Reads words as if simply to get them out.* Little sense of trying to make text sound like natural language. Tends to read in a quiet voice. 2. *Begins to use voice to make text sound like natural language* in some areas of the text but not in others. Focus remains largely on pronouncing the word. Still reads in a quiet voice. 3. Make text sound like *natural language* throughout the better part of the passage. Occasionally slips into expressionless reading. Voice volume is generally appropriate throughout the text. 4. Reads with *good expression and enthusiasm throughout the text.* Varies expression and volume to match his or her interpretation of the passage.
Phrasing	1. Reads in a *monotone* with little sense of boundaries; frequently reads *word-by-word*. 2. Frequently reads in two- and three-word phrases, giving the impression of *choppy reading*; improper stress and intonation fail to mark ends of sentences and clauses. 3. Reads with a *mixture of run-ons*, mid-sentence pauses for breath, and some choppiness, reasonable stress and intonation. 4. Generally reads with *good phrasing*, mostly in clause and sentence units, with adequate attention to expression.

Smoothness	1. Makes frequent *extended pauses, hesitations, false starts, sound-outs,* repetitions, and/or multiple attempts. 2. Experiences *several "rough spots"* in text where extended pauses or hesitations are more frequent and disruptive. 3. *Occasionally breaks smooth rhythm* because of difficulties with specific words and/or structures. 4. *Generally reads smoothly* with some breaks, but resolves word and structure difficulties quickly, usually through self-correction.
Pace	1. Reads *slowly* and *laboriously*. 2. Reads *moderately slowly*. 3. Reads with an *uneven mixture of fast and slow pace*. 4. Consistently reads at *conversational pace*; appropriate rate throughout reading.

APPENDIX B: NORMS FOR READING FLUENCY (HASBROUCK & TINDAL, 2006)

Grade Level	Percentile	Fall WCPM	Winter WCPM	Spring WCPM	Avg. Weekly Improve-ment*
1	90		81	111	1.9
	75		47	82	2.2
	50		23	53	1.9
	25		12	28	1.0
	10		6	15	0.6
2	90	106	125	142	1.1
	75	79	100	117	1.1
	50	51	72	89	1.2
	25	25	42	61	1.1
	10	11	18	31	0.6
3	90	128	146	162	1.1
	75	99	120	137	1.2
	50	71	92	107	1.1
	25	44	62	78	1.1
	10	21	36	48	0.8

WCPM: Word Correct per Minute; Grade 1: Winter–Spring/week 16; Grade 2: Spring–Fall/week 16.

Appendix C

This table shows the cross-references between the three research reports.

Oral Language in Early Childhood and Primary Education	Literacy in Early Childhood and Primary Education	Towards an Integrated Language Curriculum in Early Childhood and Primary Education
Chapter 4: Section: Teaching as Dialogue, p. 149	Chapter 2: Section: Constructivist and Socio-Constructivist Models, p. 59	
Chapter 3: Section: The academic language of discourse, p. 94	Chapter 3: Section: Comprehension, p. 88	
Chapter 3: Section: The Intersubjective Mode, p. 76	Chapter 3: Section: Developing Writers, p. 95	
Chapter 1: Section: Language and Children's Virtual Worlds, p. 56	Chapter 3: Section: Digital Literacy, p. 105	Chapter 4: Section: European Language Portfolio, p. 82
Chapter 5: Section: Language and Disadvantage, p. 180	Chapter 4: Section: Storybook Reading and Discussion, p. 120	
Chapter 4: Section: Meaning Vocabulary, p. 153	Chapter 4: Section: Teaching Vocabulary – Early Years, p. 131	
Chapter 5: Section: Language and Disadvantage, p. 180	Chapter 5: Section: Disadvantage and Literacy, p. 190	Chapter 1: Section: Language Learning in Irish Primary Schools, p. 26
Chapter 2: Section: Developmental Disabilities, p. 65.	Chapter 5: Section: Autistic spectrum disorders and literacy, p. 197	
Chapter 5: Section: Second Language Learners, p. 198	Chapter 5: Section: English as an Additional or Second Language, p. 203	
Chapter 7: General principles of and approaches to assessing young children, p. 251	Chapter 6: Section: Principles of literacy assessment in early childhood, p. 221	Chapter 4: Section: Common European Framework of Reference, p. 79
Chapter 7: General principles of and approaches to assessing young children, p. 251	Chapter 6: Section: Towards a Framework for Assessment, p. 256	Chapter 4: Section: Common European Framework of Reference, p. 79

Oral Language in Early Childhood and Primary Education	Literacy in Early Childhood and Primary Education	Towards an Integrated Language Curriculum in Early Childhood and Primary Education
Chapter 7: Section: Aspects of oral language that should be assessed, p. 253	Chapter 6: Section: Oral language, p. 222	
Chapter 7: Section: Tools for assessing oral language in classroom contexts, p. 266	Chapter 6: Section: Range of Assessment Tools Suitable for Assessing Early Literacy Learning, p. 247	Chapter 4: Section: European Language Portfolio, p. 82
Chapter 7: Section: Assessing children for whom English is a Second Language, p. 276	Chapter 6: Section: Assessing the Literacy of EAL Children, p. 264	
Chapter 6: How can teachers ensure that children's oral language development supports their literacy development?	Chapter 7: How can teachers ensure that children's literacy development supports their oral language development?	Chapter 1: Section: Theoretical perspectives and research foundations, p.11
Chapter 8: Section: Development of Subject-Orientated Knowledge in Science, p. 288	Chapter 8: Section: Inquiry-based Models of Literacy, p. 296	
Chapter 8: p. 280	Chapter 8: Section: Creativity and Literacy, p. 299	
Chapter 4: Section: Research on vocabulary instruction, p. 157	Chapter 8: Section: Drama and Literacy, p. 302	
Chapter 2: Section: Second language acquisition, p. 68	Chapter 8: Section: Second Language and Curriculum Access, p. 307	Chapter 1: Section: Theoretical perspectives and research foundations, p.11
	Chapter 8: Section: Content and language integrated learning (CLIL), p. 310	Chapter 1: Section: The integrated nature of the Primary School Curriculum, p. 27